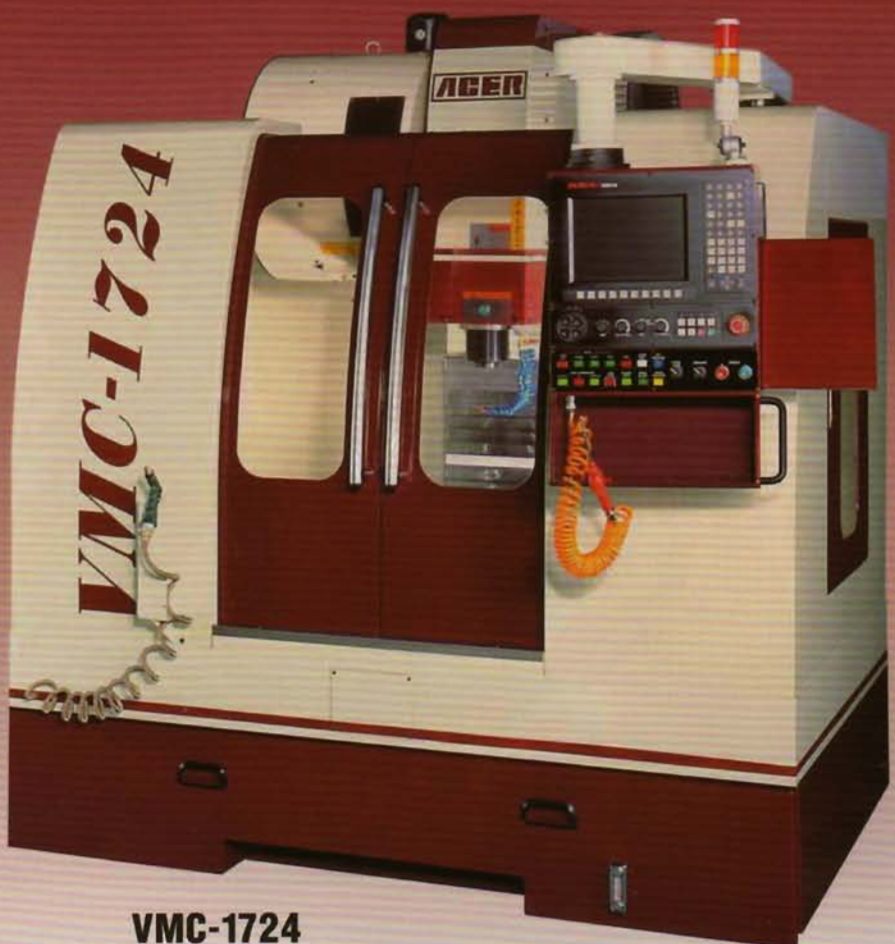
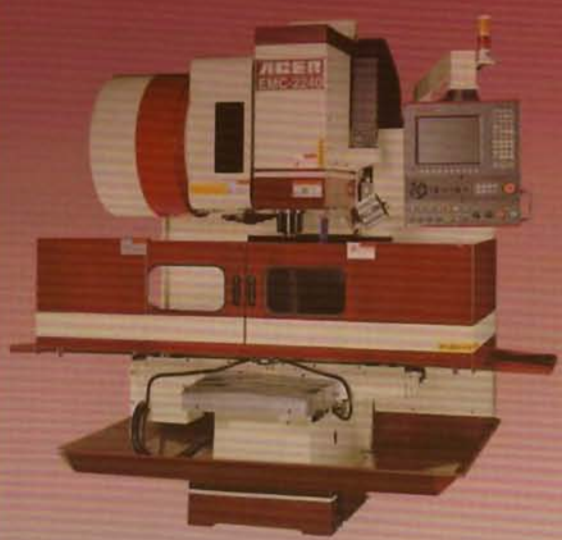
ACER

Technology • Creativity • Reliability
An Unswerving Commitment to Excellence

ACER MACHINING CENTER



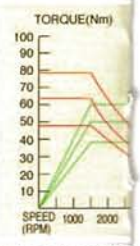


VMC-1724

Heavy Cutting, Heavy Loading & High Speed Machining Center

Extra wide, at 1.77", two linear guide ways are designed to have a sturdy hold on the housing and be able to withstand counteracting force during heavy cutting.

Gear type ATC with proximity sensors are fast and reliable



Torque chart fo

24 station arm type ATC

Tool holder is made from nylon and fiberglass. It is repeatedly tested for 100,000 times to ensure its longevity.

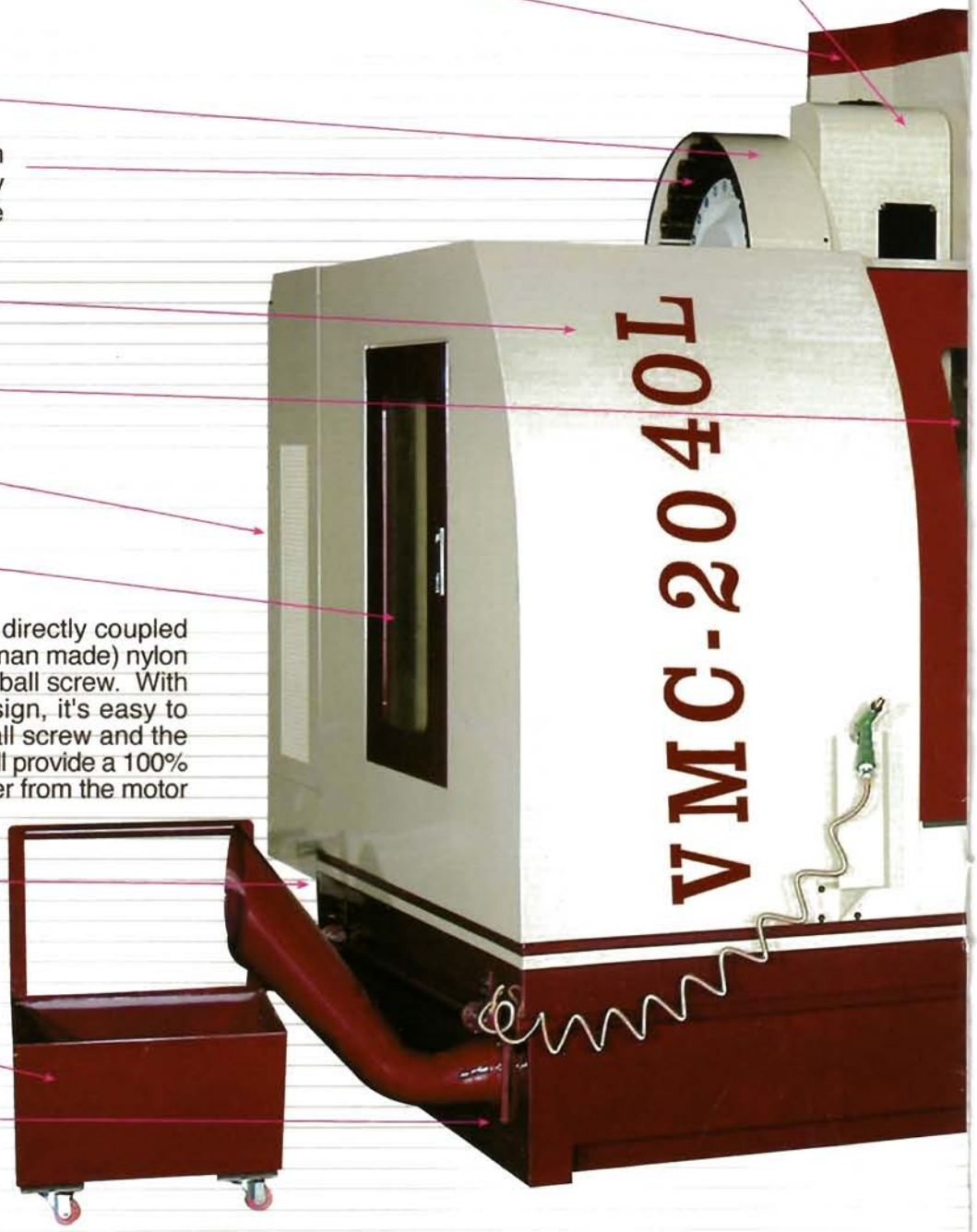
Full enclosure splash guard for the machine

Tool to tool change time is at 3.6 second

Standard transformer for the machine power

Side door for tool cutting view

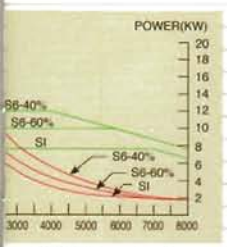
Servo motor is directly coupled through a (German made) nylon coupling to the ball screw. With this simple design, it's easy to maintain the ball screw and the motor. And it will provide a 100% transfer of power from the motor to the screw.



Removable chip tank

Removable coolant tank for easy cleaning

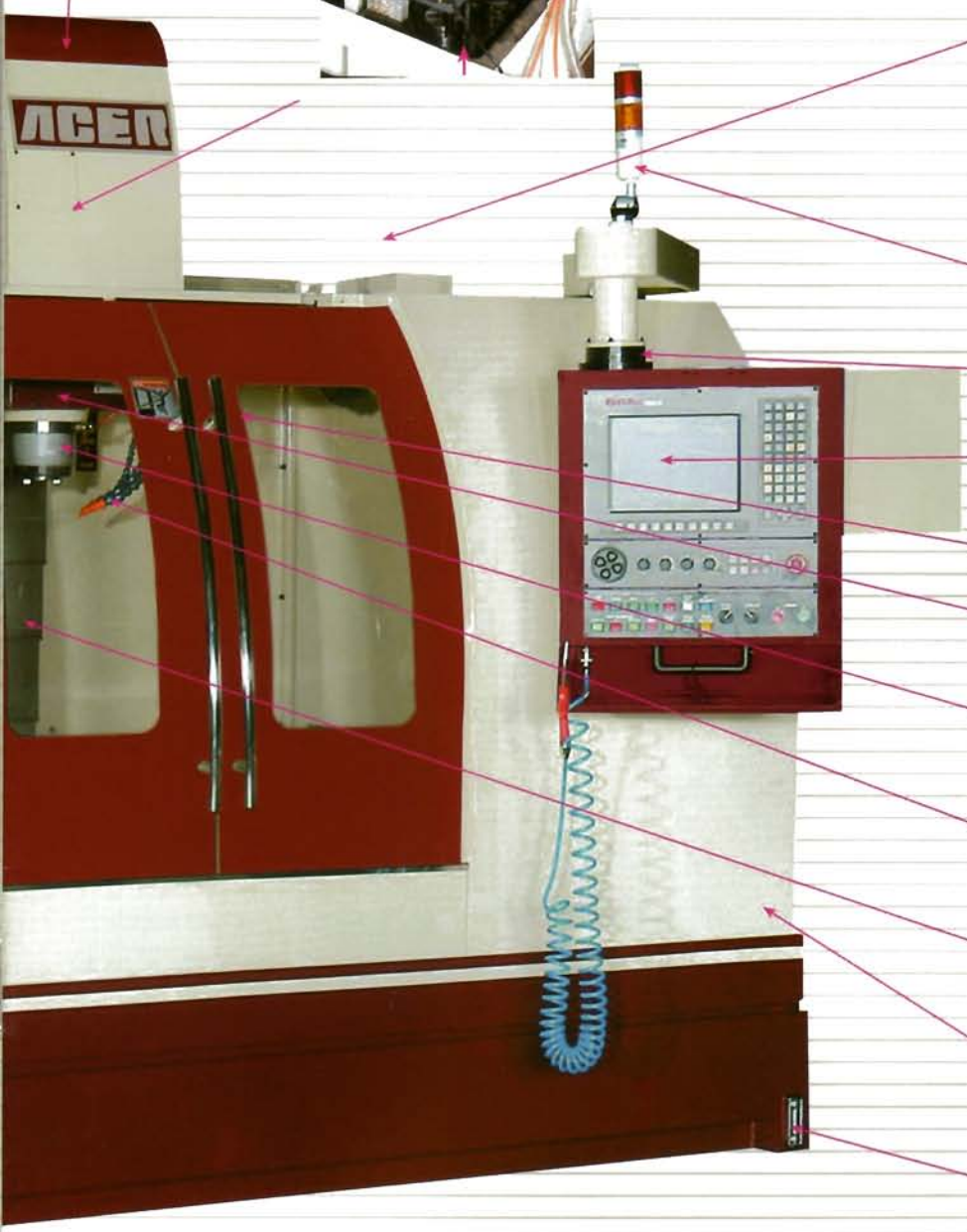
Heavy Cutting, Heavy Loading & High Speed Machining Center



or 10 HP spindle motor

Floating tool change device will reduce pressure and wear on the spindle. With the Super 8YU timing belt, all cutting forces are transfered to the tool. Thus, ACER VMC is able to cut through work piece on a fly.

Easy layout and CE standard electric cabinet are standards on ACER VMC's. This new standard allows for easy maintenance and cleaning .



Two-stage warning light

90° swivel control panel

Easy layout on the control panel

Standard halogen light

Tool clamp/unclamp button

CAT #40 spindle with 5 bearings for heavy cutting

Coolant nozzles and air blast are standard

Three axes linear guide ways by THK, NSK or equivalent.

The machine is weighed at 12,100 lbs

Coolant level indicator

VMC-2040L

Heavy Cutting, Heavy Loading & High Speed Machining Center

One special feature on this model is its table. The ball screw base is attached to the bottom of the table. When the table is ground, the base is also ground. This procedure can ensure the ball screw traveling parallel with the guide way.

All ACER machining center have a balancing block. This block is guided with a round bar to reduce vibration. When the Z axis is in high speed traveling, the motion will be smooth and effortless.

10 HP continuous spindle motor

Selectable chip flood coolant switch for automatic chip cleaning

20 tool gear type ATC

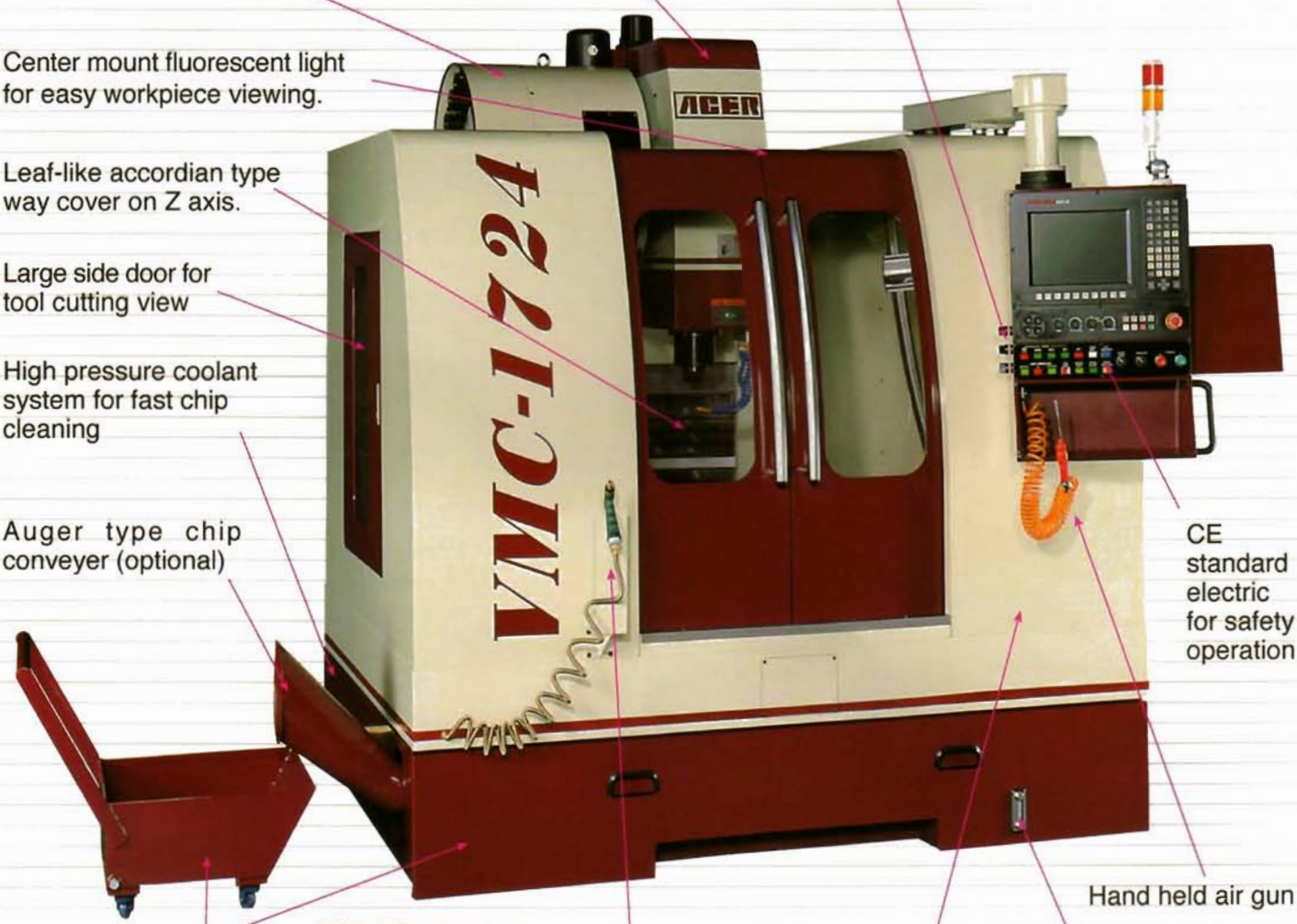
Center mount fluorescent light for easy workpiece viewing.

Leaf-like accordian type way cover on Z axis.

Large side door for tool cutting view

High pressure coolant system for fast chip cleaning

Auger type chip conveyer (optional)



CE standard electric for safety operation

Hand held air gun

VMC-1724

Removable chip tank & coolant tank for easy cleaning (optional)

Hand held coolant flood gun

Full enclosure splash guard for the machine

Coolant indicator

Heavy Cutting, Heavy Loading & High Speed Machining Center

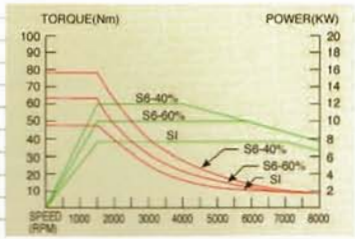
The newly redesigned way cover on the Z axis is less weight and easier to maintain. When Z axis is in motion, the leaf-like way cover will shrink and expand freely. This is the best cover yet, for the high speed machining center!

Only on this model, user can find dual chip auger design. This design will transport cutting chip faster and maintain a cleaner operating area.

VMC-2443

Heavy Cutting, Heavy Loading & High Speed Machining Center

Automatic arm type tool changer-
20 tool changer standard, optional
16 or 24 tool changer



10 HP spindle motor
made in Germany

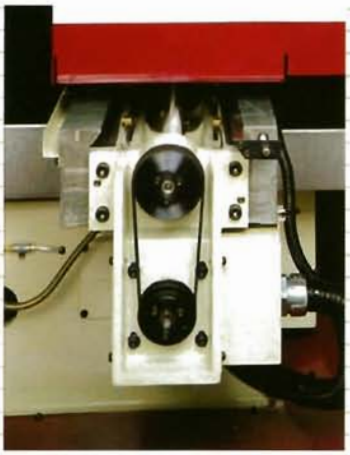
Torque chart for
10 HP spindle motor

SPINDLE & ITS ASSEMBLY

Every ACER EMC spindle is loaded with five P4 precision angular contact ball bearings (NSK or FAG). This design will allow users to heavy cut when machining. The spindle shaft & spacers are precision ground to accuracy within 1/10,000" in roundness and 0.4/10,000" in parallelism. We are then able to control the spindle's run-out and its preload to ACER specifications.

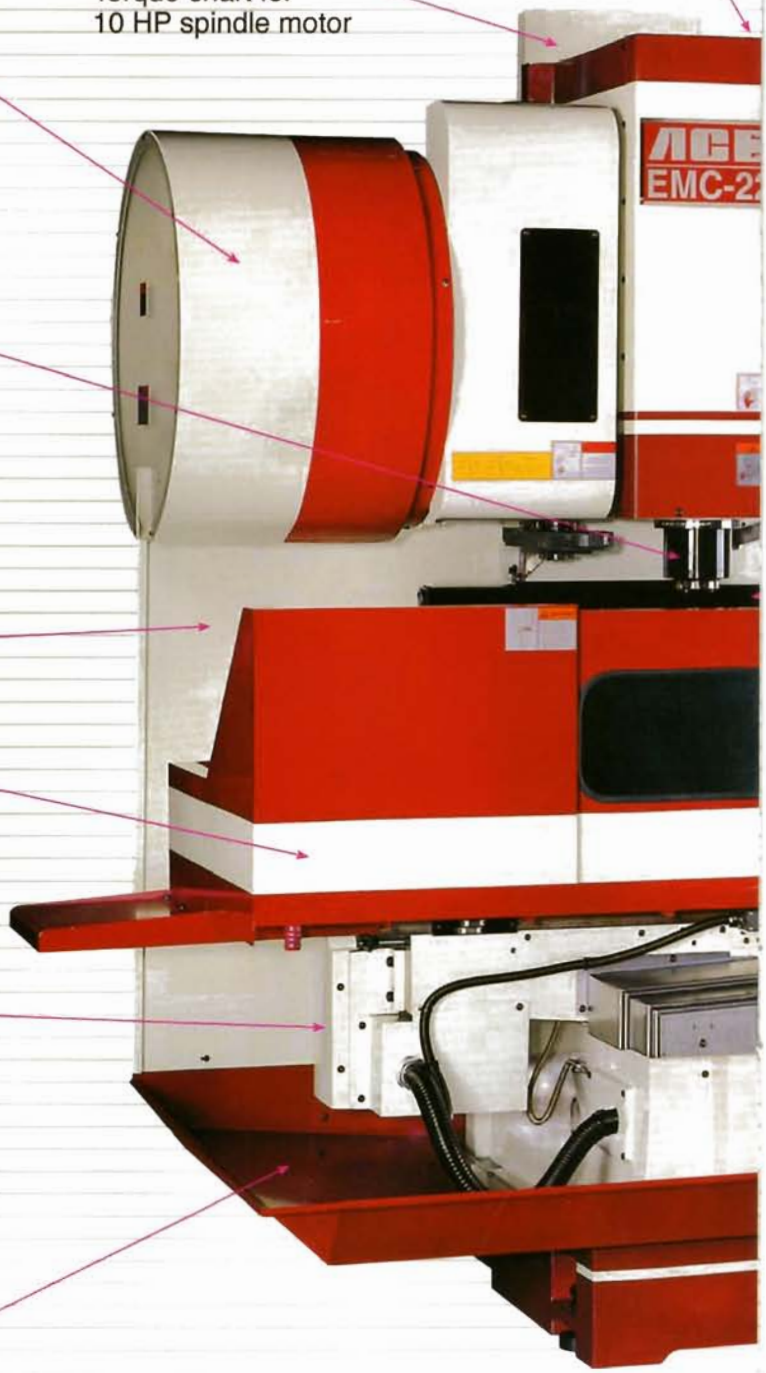
Column side guard

Table splash guard with retractable doors



CONNECTION OF SERVO MOTOR AND BALL SCREW

2.5 HP German made servo motor is joined with C5 ball screw through non-slip HTD timing belt and pulley. With proper tension on the belt, 100 % of the motor torque is transferred to the ball screw. Thus, when ACER EMC is heavy cutting, it cuts through work piece on a fly.



Chip pan for collecting chips and coolant

Heavy Cutting, Heavy Loading & High Speed Machining Center

ELECTRIC CABINET
ACER electric cabinet is carefully laid out and ready for more expansion. When users need to add fourth axis or troubleshoot, this cabinet allows for easy access and cleaning. (CE standard)

60° swing overhead control arm

ANILAM 6000M control system with high speed machining standard

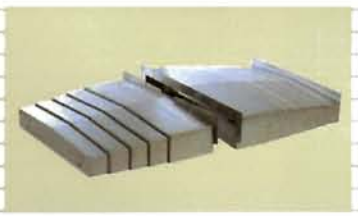
Tool clamp / unclamp button

Halogen light

Four coolant nozzles output to splash the workpiece cleanly

Retractable Z axis roller cover to block coolant and chips entering the slideways

Hard stop limit switch provides as the secondary traveling limit



TELESCOPIC STEEL WAY COVER
ACER EMC is equipped with telescopic steel way cover on the Y axis. This way cover retracts silently and smoothly with Y movement. When coolant is used during cutting, the chips and coolant will flow down the way cover. ACER way covers are designed with an 8 degree slope. This allows coolant and chips to easily slide down to the bottom base.

Y, Z axes have square ways

Three axes hardened & ground slideway at Rockwell C 55 degrees.

FC 30 castings weighing at an impressive 8,360 lbs

EMC-2240A

ACER Heavy Cutting, Heavy Loading & High Speed Machining Center

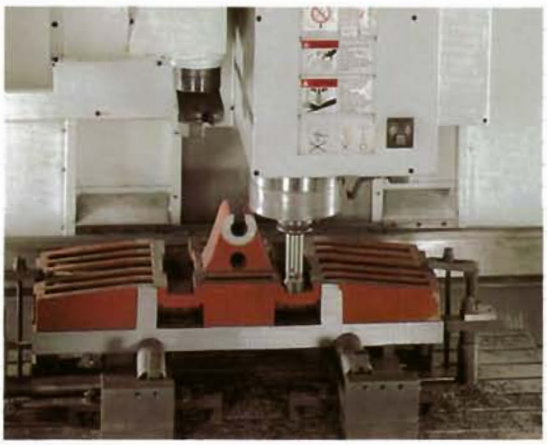
MACHINING & ASSEMBLY

All annealed ACER FC-30 castings are stockpiled and aged prior to machining. This is done to eliminate internal stress and deformation on the castings.

Specially designed bridge-type planer mill & machining center are used to machine ACER working tables & columns. The parallelism of slideways to each others and T-slots to guide ways are guaranteed within 6/10,000" of each other.

The final foundation of accuracy (squareness, flatness & parallelism) is milled and machined exclusively on a five-axis machining center. The accuracy is guaranteed within 4/10,000" of each overall travel axis (on all three items).

With a special fixture on horizontal boring machine, the spindle housing is machined and honed to within 2/10,000" per 12", and its parallelism to the guideway is within 4/10,000" per 12".



Contacting slideways & screw nut base on ACER saddles are carefully aligned and machined. The perpendicularity between the two items is guaranteed within 4/10,000" The slideways are high speed machined to maximize contacting surface and reduce hand-scraping time.

Using precision ground square ways as the guidelines, the tabletop is ground within 2/10,000" every 20" and levelness within 0.0004" over 40".

Heavy Cutting, Heavy Loading & High Speed Machining Center

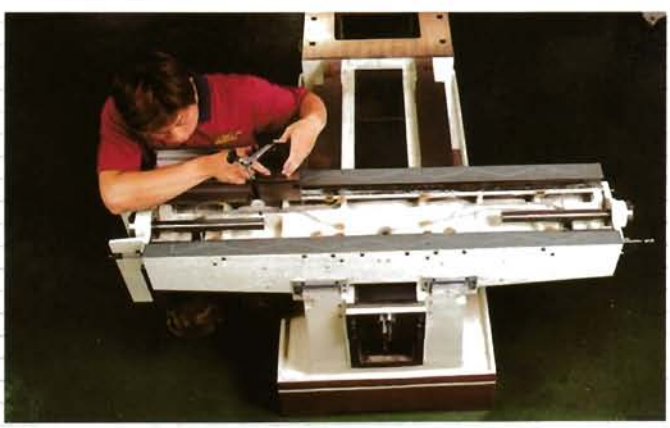
Machine base is the foundation of machine accuracy. The slideways of ACER machining center is either hardened & ground or high speed machined to within 4/10,000" over the entire travel length.

Before loading EMC saddle onto the machine base, the guide way of the saddle is fit to a table. The laminated gibs are then scraped on both sides to fit between the two items. This procedure ensures and produces a lateral movement of less than 4/10,000" per 40" (EMC model).

After scraping the saddle to the machine base, the column is then scraped on the bottom and loaded onto the base. To ensure the perpendicularity and parallelism of the column to the tabletop, a 90-degree granite angle plate is used to check and recheck the values. Only ACER standard is reached. Otherwise this procedure continues (EMC model).

Automotive painting process is the foundation of machine appearance. All ACER castings are padded with metal bonding and sanded to the best contour. They are, then, sprayed with epoxy automotive paint to achieve their final appearance.

Before the ball screw brackets are installed, every pair of angular contact ball bearing is checked for its thickness. The depth of bearing bracket is also measured. After the procedure, the bearing pair is installed into the bracket with a preload of 8/10,000". This will ensure a sturdy hold on the ball screw when it is moving.



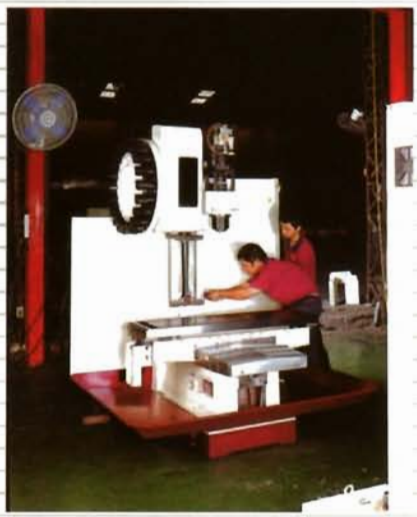
Before ball screws are installed onto each axis, technicians uses modular tools to align the bearing brackets. The standard alignment accuracy is 4/10,000" per 40". This procedure will ensure a smooth ball screw movement, and extend its life span.

Heavy Cutting, Heavy Loading & High Speed Machining Center

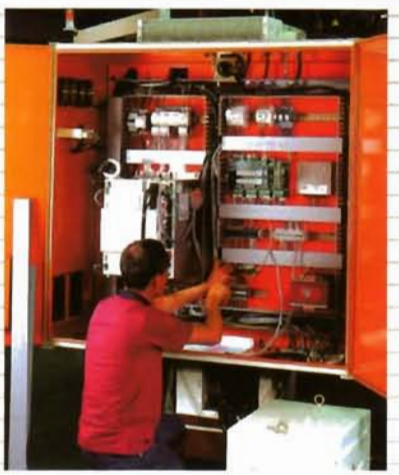
The final process of the ball screw installation is checking its axial pulling value. The total value shall not be less than 16/10,000". This is a must if repeatability and positioning accuracy is important.

The automatic tool changers are checked carefully. ACER will not install an ATC if it does not pass our strict standard.

The spindle is carefully installed onto the spindle housing. ACER technicians will make sure the spindle is parallel to the Z-axis slideway (within 4/10,000" per 12"). When this is achieved, the bottom of the spindle face will be perpendicular to the tabletop.



All sheet metal components are installed when the machine is ready. ACER technicians will match the sheet metal parts, and make sure they are secured tightly before the shipment.



ACER electrician carefully installs the wires, and checks the circuitry. This is the last step before power is supplied to the machine.

Two technicians are needed to align the ATC. One adjusts the gear motor position, the other will use the alignment bar to center the tool position. This procedure will reduce wear on the spindle taper and prevent pressure built up in the spindle bearings.

Heavy Cutting, Heavy Loading & High Speed Machining Center

The final stage of the machine building is to test run the machine. ACER engineer will program and set up the machine to run for 24 hours. This is a requirement for breaking-in period on the machine. It will make sure the machine is built right and ready for delivery.

ACER builds machines with assurance and quality in mind. On the ACER assembly line, all machines are tested before shipment, and delivered on time according to their schedule.

THE FOLLOWINGS INSTALLATION PROCEDURE FOR VMC MODEL ONLY

Every machine base of ACER VMC is level within 4/10,000" per 40", and then it is installed with ball screw and linear guide ways. The alignment accuracy of the linear guide way is 4/10,000" over the entire travel, and parallelism of the ball screw is within 4/10,000" over the total length.

Installing the saddle and rechecking the levelness is the next step. Like machine base, ball screw and linear guide ways are installed and checked to specified values. At this stage, the preload and axial deviation on the ball screw is also applied. (VMC)

Using two precision levels, the table is moved longitudinally & horizontally to enable our technician to check the levelness of the entire table travel. The standard is within 8/10,000" over the entire travel. (VMC)

CAT#40 or BT#40 spindle is tested with a floating tool change device. ACER technician will adjust the depth the tool change device. This procedure will be repeated until the proper depth is achieved and tool changing is approaching soundless.

The final assembly stage of the VMC is installing column onto the machine base. With granite angle plate, ACER technician is able to align the column within 6/10,000" over 20". (VMC)

Next the ATC & sheet metal parts are installed onto the VMC. One by one the ACER VMC is slowly taking form. To make sure all pieces of the parts will fit, ACER technicians carefully install and check all alignments. Until they fit, ACER technicians will not rest!

Three axes' servo motors are installed next. One by one, ACER technician carefully align & install the servo motor onto each axis. When the motor position is set, the couplings can then be tighten. This makes the axis movement complete.

Telescopic metal covers are installed onto each axis. This is done to protect the motors and slideways. To make sure the covers are installed correctly, ACER technician needs to check the movement of each axis. Until the covers are traveling smoothly with the motion, ACER technician will adjust & re-adjust the cover position.

INSPECTIONS

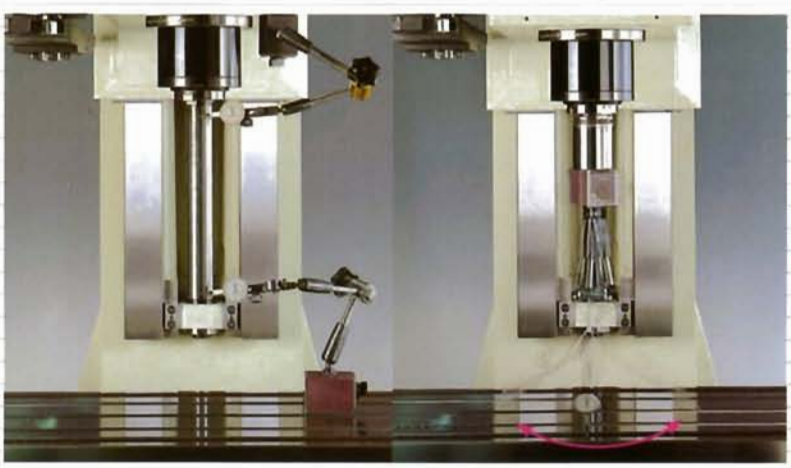
Ball screw is the heart of all ACER machining center. It is precision ground to C3 specification, and then the grounded ball screw is laser calibrate and recorded for its accuracy in a temperature controlled room (at 70°F). After inspection, the ball screw can be installed onto ACER machines.

All machining centers are as good as its spindle. All ACER VMC & EMC'S spindles are assembled and tested in a temperature-controlled room. Every ACER spindle is test run for 24 hours. This is required for breaking-in the newly assembled spindle, and the only way to ensure every spindle to have low △T (within 18°) and dB level (under 80°).

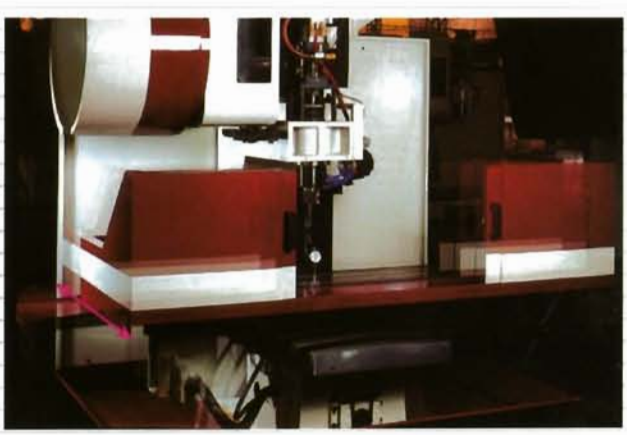
Heavy Cutting, Heavy Loading & High Speed Machining Center

Linear guide way is another inspection item. All ACER linear guide ways come in a pair. They are installed onto each axis and check with parallel gauge. The deviation from checking to the gauge will be less than 4/10,000" per 40". This standard applies to both side and top parallelism value on the gauge.

One of the main goals in using CNC control machine is time saving. To ratify this concept, ACER VMC & EMC's T slots are high speed machined or precision ground. It is within 0.0002/40" parallel to the X-axis movement. With this ground guideline, users can set up the work piece in no time.

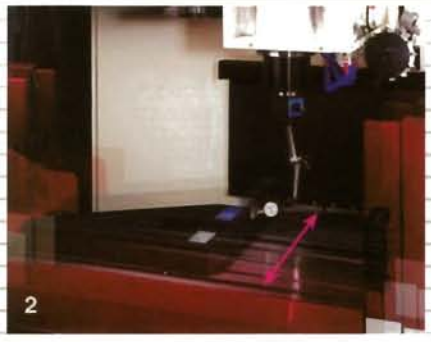


Spindle run-out and perpendicularity are examples of final inspection. The ACER spindle with a 12"-long testing round bar is guaranteed to be within 1/10,000" at zero and 4/10,000" at 12" position. Sweeping a circle on top of table allows inspector to know the perpendicularity of the spindle to the table-top of the machine. The permissible error is within 6/10,000".



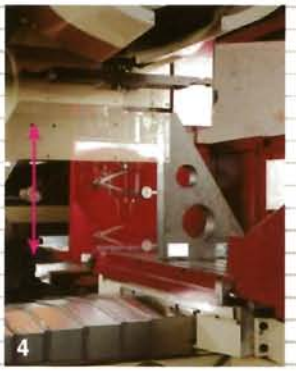
"Table surface parallels to its movement"- it is one of the inspections on the machine. Indicating on the table surface checks the movements on X & Y axes. The permissible error is 0.0004/24" on either axis.

Heavy Cutting, Heavy Loading & High Speed Machining Center

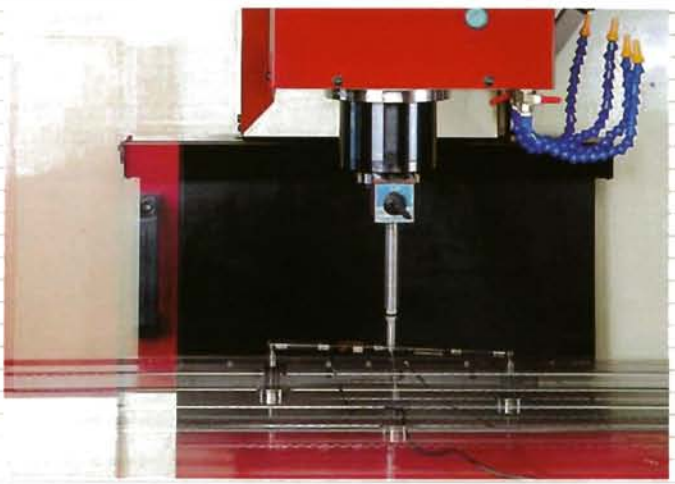


1. Levelness is another critical inspection. ACER technicians will check for twisting and bending action on the table. If the levelness is within 0.0006/20" on either axis, the machine is surely built right, and it will perform as accurately as specified.

2. Both X & Y axis movements are checked with a granite angle plate. ACER controls the axis deviation within 0.0004/20". This is a must if a true circle pattern is desired.



3.& 4. For a true round sphere cut, both movements on Z-axis with respect to X or Y plane must be accurate. ACER measures and makes sure the Z-axis travel is also within 0.0006/20" before it is shipped.



Ball bar testing

Before any shipment, all ACER EMC's are put through ball bar testing and laser calibration. Ball bar testing is done with a bar attached to the spindle and a point on the table. The testing machine is then put through a series of 1/2 circle movements in X,Z and Y,Z planes, and full circle movements in the X,Y plane. During the movement, the encoder in the bar will output micron data to the computer. The computer analysis program will output a series of charts dictating machine accuracy.

Laser calibration

Any deviations in squareness or length will show up as a distorted circle, and spotted by the inspector very easily. This test ensures the machine is aligned properly and installed accurately.

After assembly, the X, Y and Z axes on ACER EMC are measured and calibrated using the Renishaw laser calibration machine. This test will enable the inspector to verify and compensate the machine axis. This results in increased positioning and repeatability accuracy.

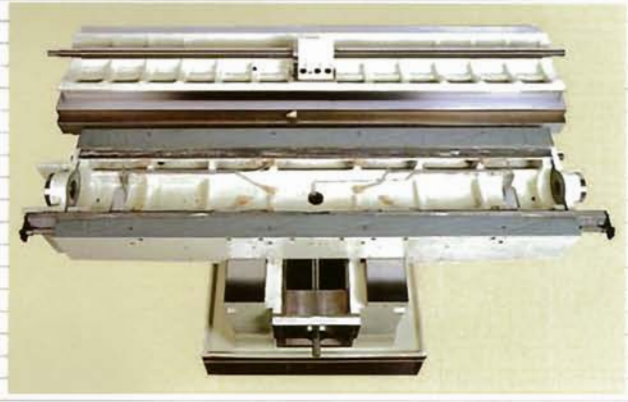
Heavy Cutting, Heavy Loading & High Speed Machining Center

FEATURES

MAIN CASTINGS EMC MODEL:

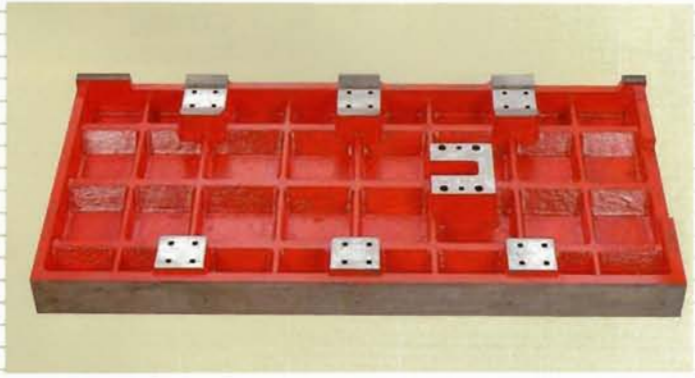
The foundation of a machine is in its castings. The components on ACER EMC are cast from FC-30 graded iron. The column and the spindle housing must be rigidly cast to heavy cut. The spindle housing is cast with triangle-web ribs. This style of ribbing will distribute and deflect all cutting force towards the column. This minimizes the upward movement on the spindle housing. The column has hexagonal-web ribs with three vertical supporting ribs to counteract the force transfer from the spindle housing. With this design, the column can distribute all cutting force and withstand any heavy cutting.

To support a work piece weight around 1,980 lbs, the table and saddle of the machine must have proper rib support. ACER table is cast with 12 arch style ribs and two longitudinal ribs running through the entire table length. This structure design helps to maintain table top accuracy when a heavy weight is loaded. Triangular ribs combined with horizontal running ribs on the saddle typifies ACER design concept. As more weight or force is exerted on any component, ACER will distribute this entity toward any supporting component. This design concept will minimize distortion on individual components and helps to maintain the overall machine accuracy.



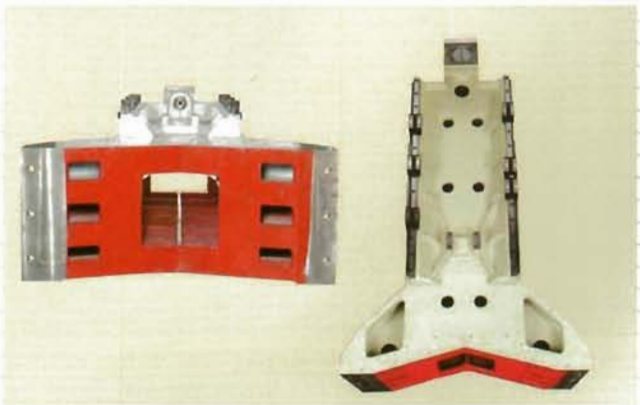
VMC MODEL:

The design principle of the VMC castings is square. The box way rib design connects the round spindle housing to the back end of the slideway. It is easy to see this design will absorb and distribute the cutting force toward the column. When heavy cutting, this FC-30 cast housing will stand its course.



A square with square ribs are along the backside of the VMC table. This structural design stabilizes the table surface. No deformation or twisting action on the table will be found. When a heavy weight is loaded, the table will still move with ease.

Heavy Cutting, Heavy Loading & High Speed Machining Center



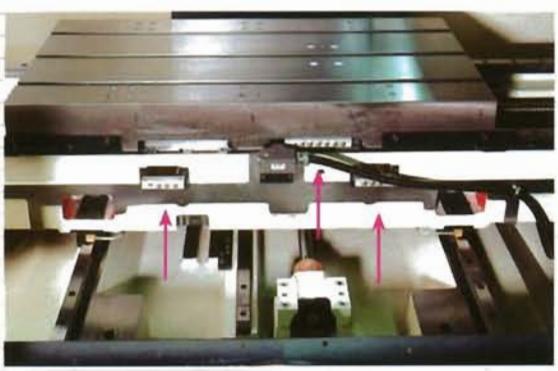
Inverted Y designed column is a special feature of ACER VMC (2040L). This column is also with square type ribs. With top down running and horizontal ribs, this square ribbed column is rigid and sturdy. On the base of the inverted Y column (the "V" section), it is incorporated with circular ribs joining the "I" section. Thus all weight on the "I" section is fully distributed to the machine base. No rocking on the column will occur when heavy cuts are made.

AUTOMATIC TOOL CHANGER

ACER arm type tool changer has a 20/24-tool capacity controlled by a precision stepping gear motor. At each tool change, the magazine rotates to exact position and allows for instant tooling swap. The tool holders on the magazine are made from nylon and fiberglass composite. They are capable of taking 100 kgs side force and able to withstand any PH value coolant.

RETRACTABLE STEEL TELESCOPIC WAY COVER

Retractable telescopic steel way covers are standard on all VMC's three axes. On X & Y axis, the slope of the cover is 10 degrees. This way cover allows for rapid self-draining of coolant and chips. With a new guiding nylon insert between each cover, ACER steel telescopic way cover is tested to a maximum speed of 1,575"/min. At this rate, any work piece is finished in no time.



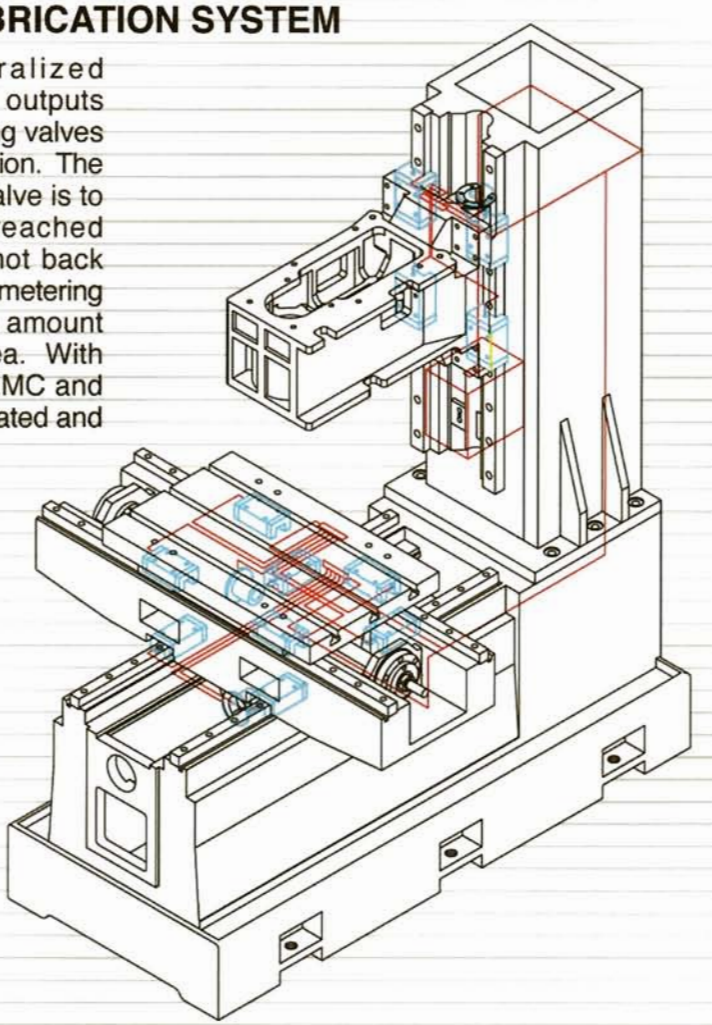
LUBRICATION SYSTEM (OPTIONAL)

The oil fittings on the saddle are for pumping grease. ACER VMC'S utilize the newest technology. All linear guide ways on X, Y & Z axes use #95 viscosity grease for lubrication. This reduces the chance of coolant mixing with lube oil and it is more environmental friendly since less waste is produced.

Heavy Cutting, Heavy Loading & High Speed Machining Center

AUTOMATIC LUBRICATION SYSTEM

On ACER's centralized lubrication system, all outputs have check and metering valves to ensure proper lubrication. The function of the check valve is to verify once the oil reached specified area, it will not back flow. The function of the metering valves is to control the amount of oil going to each area. With both items, all ACER EMC and VMC are properly lubricated and oiled.



Automatic lubrication system comes standard on all ACER machining center. This four or eight liters unit can force, time and adjust lube oil to all necessary parts. When oil level is low, its buzzer will sound, and the control will halt the running program. The program then can be restarted, when the reservoir is refilled.

Rotary table

Tool holder & Retention knob

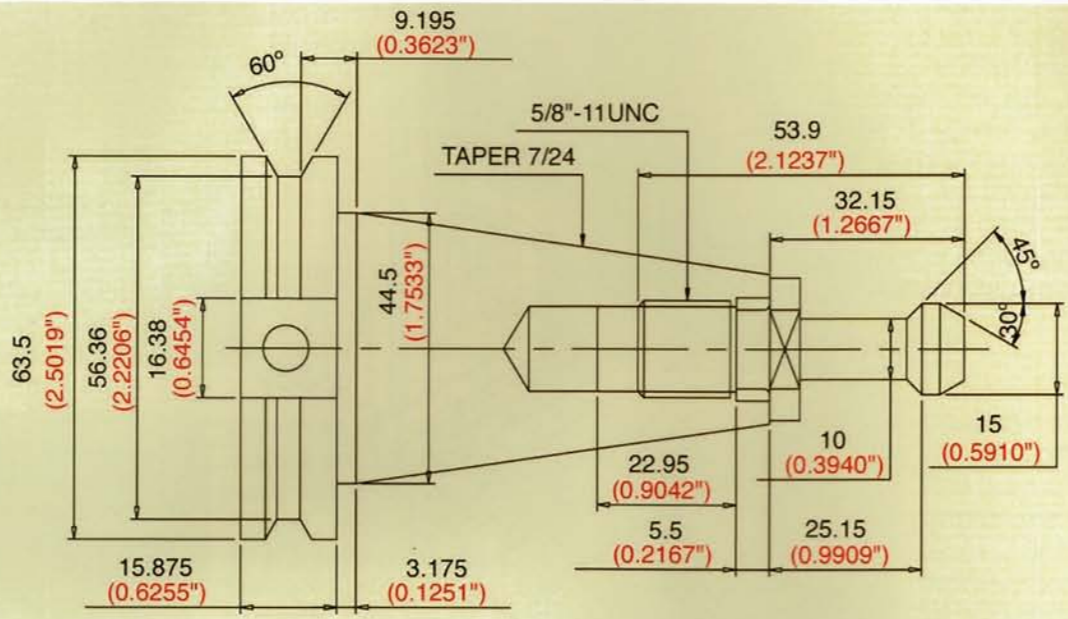
Tool locking base

STANDARD ACCESSORIES

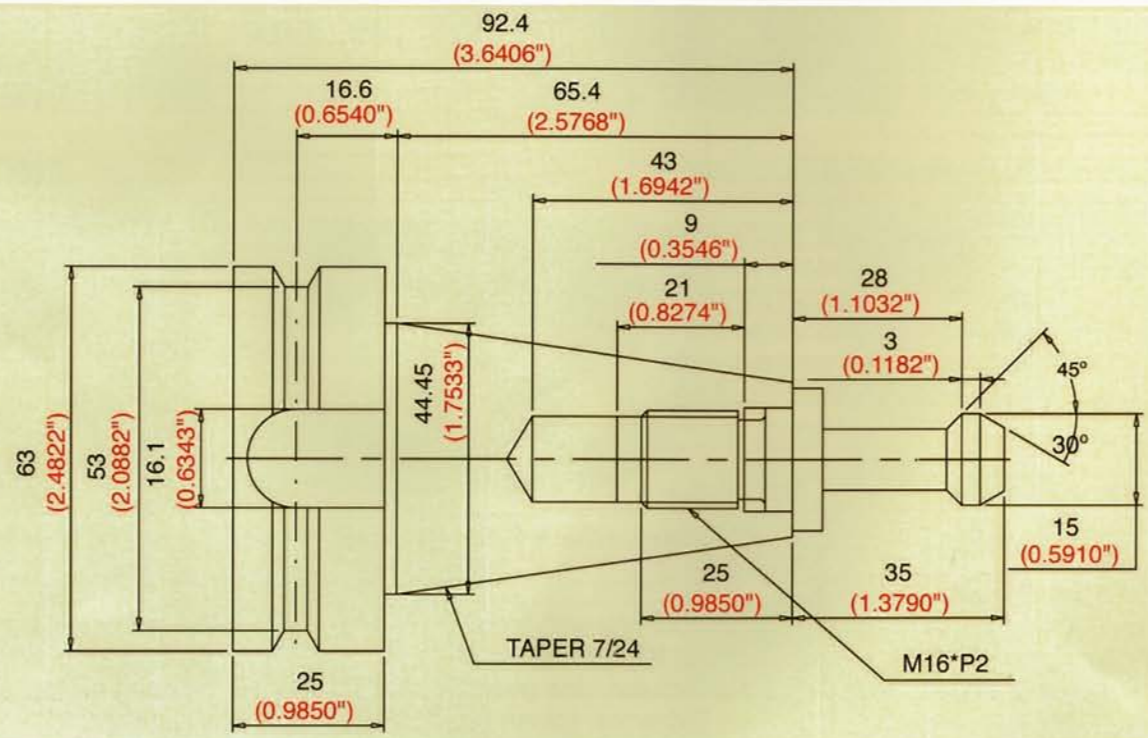
1. 20/24 station ATC (arm type)
2. Rigid tapping
3. Coolant pump and nozzles
4. Halogen light
5. Electrical maintenance manual
6. Operational manual & parts list
7. Leveling pads & bolts
8. Tool box with tools
9. 15 KVA transformer
10. Column side guard (EMC)
11. Table top splash guard (EMC)
12. X,Y & Z axis telescopic steel way cover(EMC has Y axis only)
13. Anilam 6,000 M control
14. Full enclosure splash guard (VMC)
15. Spindle air blast (VMC)
16. Floating air tool change system (VMC)
17. Oper door power disconnect (VMC)
18. Lubrication system
19. Three axes linear guide way (VMC)

TOOL SHANK & PULL STUD

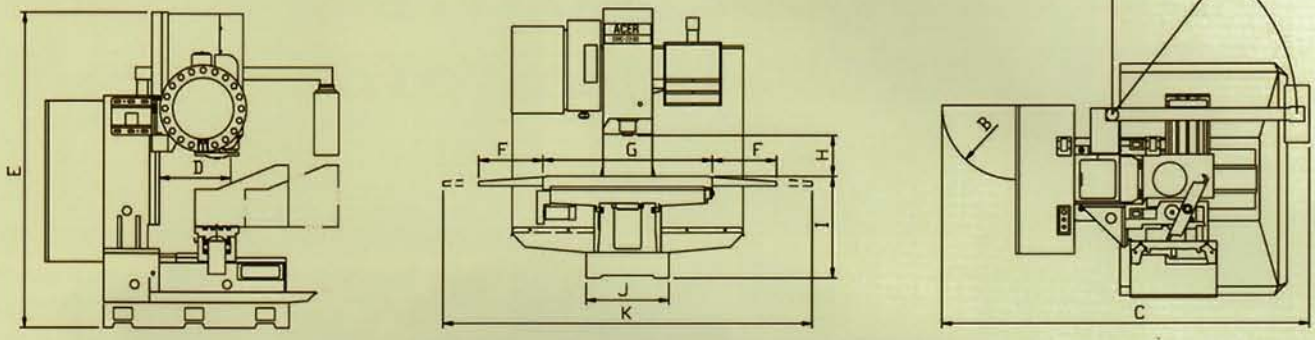
CT-40



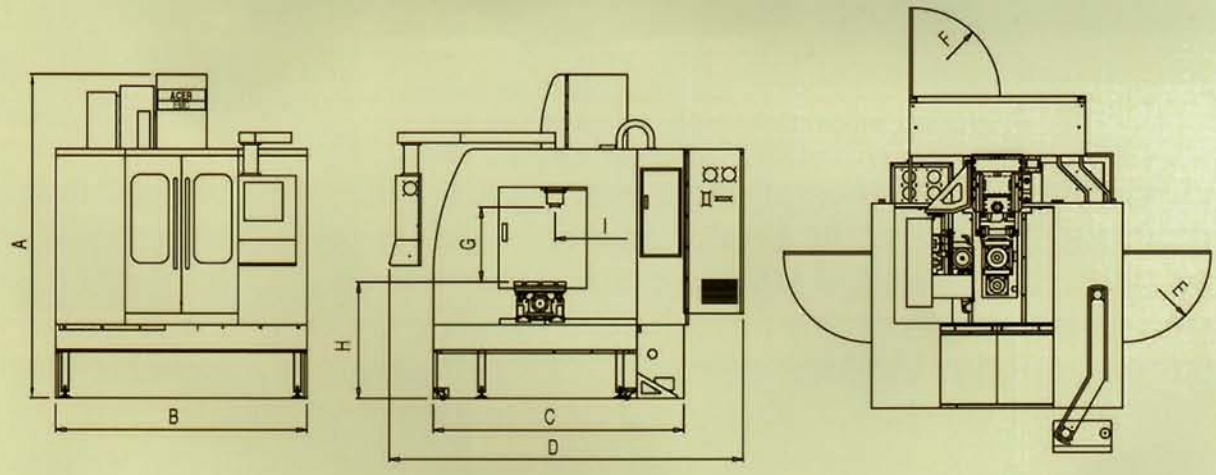
BT-40



DIMENSIONS



MODEL	A	B	C	D	E	F	G	H	I	J	K
EMC-2240A	71"	28"	121"	23"	100"	20.5"	54"	24"	32.3"	26.4"	138"



MODEL	VMC-1724	VMC-2040L	VMC-2060L	VMC-2443	VMC-2451	SMC-2442
A	101.26"	106.29"	98.34"	107.67"	107.67"	76.12"
B	79.14"	114.15"	157.48"	116.14"	131.88"	118.11"
C	78.74"	81"	81"	88.58"	88.58"	88"
D	111"	114.17"	98.42"	111.18"	111.18"	101.57"
E	25.56"	26"	26"	39"	39"	25.39"
F	25.56"	35.43"	35.43"	31"	31"	23.62"
G	23.19"	24.8"	24.8"	27.2"	27.2"	24"
H	36.22"	24.29"	35"	39"	39"	33.46"
I	20.07"	24.68"	24.68"	29.5"	29.5"	25.59"

ANILAM 6000I DIGITAL ADVANCE G-CODE / CONVERSATIONAL CNC CONTROL SYSTEM

ACER designed control panel with M-code functions.

Full AC digital drive & servo motor platform.

There's no need to be a programming expert with ANILAM 6000I's easy to follow instructions. Just follow the graphic directions and the part will be programmed in no time. The ANILAM 6000I control is the first CNC to offer both a true conversational programming format and a standard G-CODE format within the same system. Users have the option of writing programs in a conversational or G-CODE format via the integrated 6000 CAM feature or importing directly from any external CAD/CAM system. This CNC control is also equipped with state-of-the-art feature, HIGH SPEED MACHINING. This allows for "reading before cutting" which reduces part-making time and increased accuracy. As the machine cuts, the program is being read ahead; the control will read up to 60 blocks at a time. By the time the tool bit is machining, the control is able to identify the best machining solution without stopping which results in higher accuracy, smoother motion, and higher actual feedrate. This is just another standard feature that ANILAM offers where it is an option for others. Integrated with the ACER EMC/VMC line, this control and ACER quality and reliability will help the next generation machinists to become a cut above the rest!

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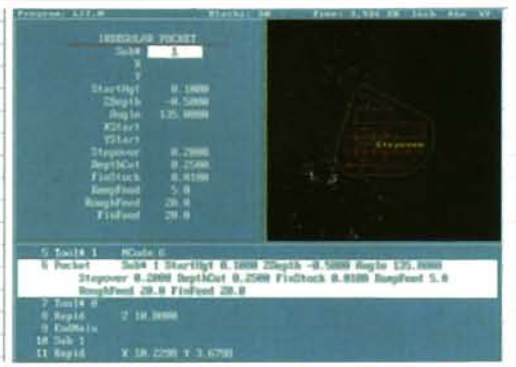
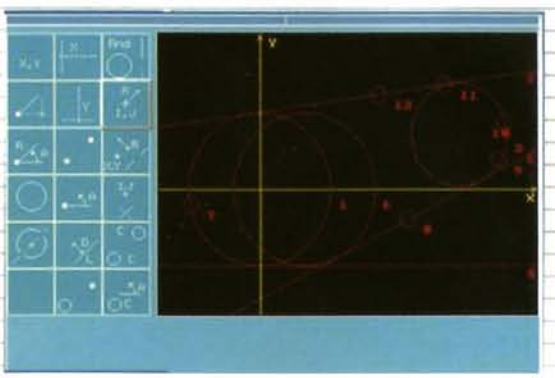
CONVERSATIONAL PROGRAMMING FORMAT

Conversational program input

Using the conversational programming language, the full compliment of canned cycles and the integrated geometric calculator, complex parts can be programmed directly at the machine tool.





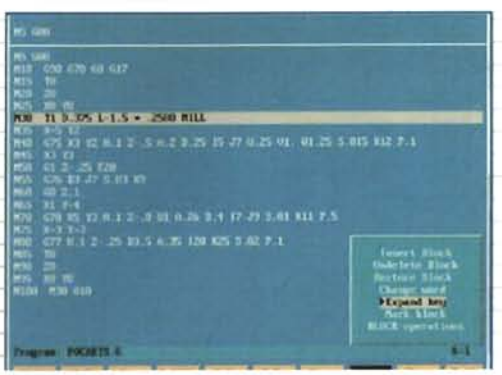
Geometric calculator

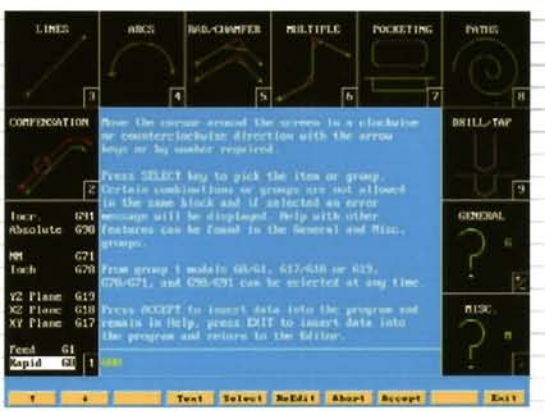
With ANILAM's geometry calculator, all geometric elements (points, lines and circles) can be entered and used to create any 2D profile. All intersecting points can then be recalled directly to the part program and used in conjunction with the irregular pocketing canned cycle.

STANDARD G-CODE PROGRAMMING FORMAT

Full screen editing

Experienced G-Code programmers will appreciate the 6000 series full screen program page. Advanced editing operations such as cut, copy, paste, find, change word, read, write, etc., make program changes fast and easy. Macros and parametric capability is standard.





Help menu

New users can take advantage of the HELP MENU to create entire G-Code programs. Help is available for any programmable function, from a simple rapid move to complex pocketing cycles. The operator is provided with a graphical reference, and prompted for necessary inputs. No need to memorize complicated G-Code / M-Code functions.

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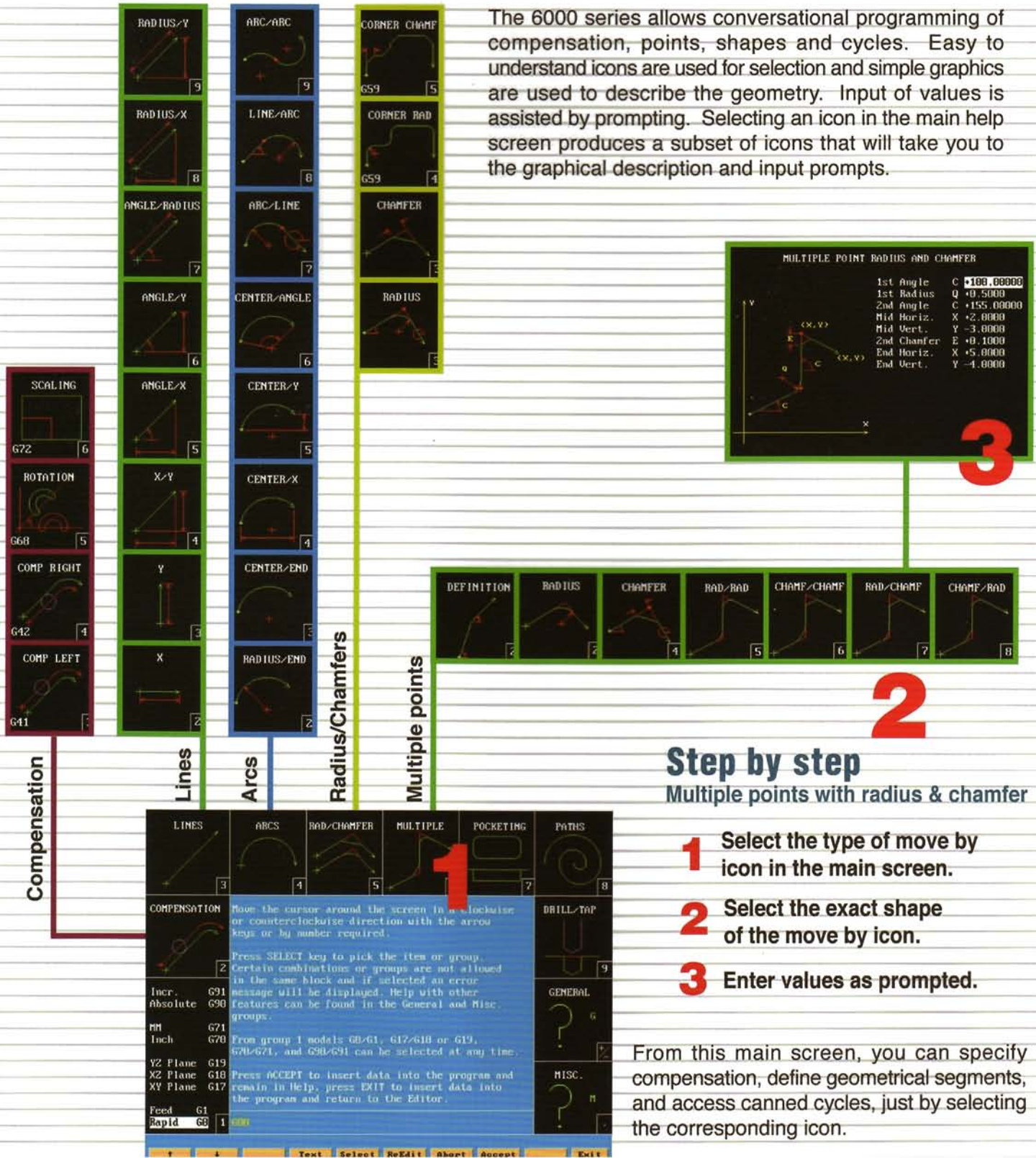
HELP MENU
ICON BASED PROGRAMMING



The 6000 series allows conversational programming of compensation, points, shapes and cycles. Easy to understand icons are used for selection and simple graphics are used to describe the geometry. Input of values is assisted by prompting. Selecting an icon in the main help screen produces a subset of icons that will take you to the graphical description and input prompts.

Step by step
Multiple points with radius & chamfer

1. **Select the type of move by icon in the main screen.**
2. **Select the exact shape of the move by icon.**
3. **Enter values as prompted.**

From this main screen, you can specify compensation, define geometrical segments, and access canned cycles, just by selecting the corresponding icon.

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HELP MENU

CANNED CYCLES-POCKETING

Anilam's pocketing cycles are designed for milling pockets. Among the standard cycles included are frame, hole, circular, rectangular, and irregular pocket (area clearance) cycles. Special pocketing such as draft pocket and plunge pocket are included as standards. Also included are advanced cycles for easy programming of elbows and mold rotation. Cutter compensation is built in to all pocketing cycles.

Frame milling

Used for milling a rectangular pocket with an island the center.

Elbow milling

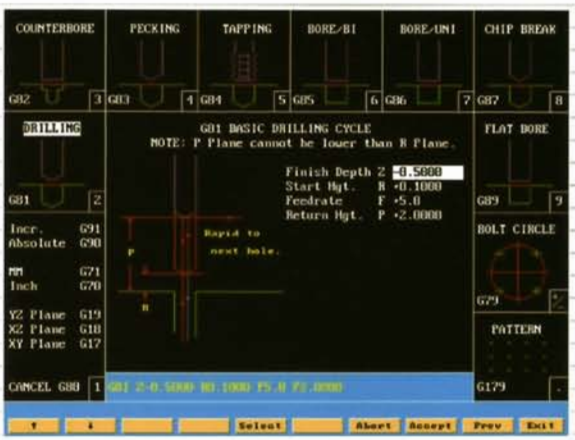
Easily create an elbow cavity (radial conical cavity) by simply filling in the start and end radii, the included angle and the number of cycles desired.

Hole milling

This cycle is used to counter bore an existing hole.

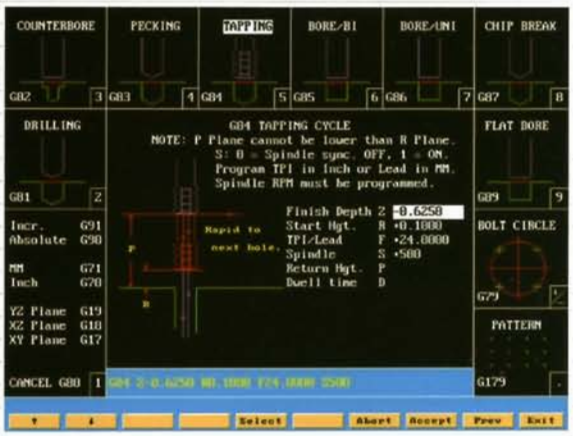
CANNED CYCLES-DRILLING AND TAPPING

Anilam's drilling and tapping cycles include cycles for any drilling, boring, or tapping routine. Linear, square and full or partial bolt hole patterns can be quickly programmed by answering only a few questions.



Basic drilling

Used for basic hole drilling. The cycle will create a drilling program with only the finish depth and start height information needed.



Tapping

Tapping is easily accomplished with three quick prompts. Note: Spindle control must be present.

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HELP MENU

CANNED CYCLES-PATHS

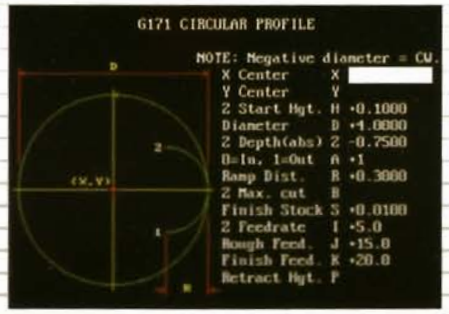
Anilam's path cycles include those for face milling and circular and rectangular profiling. These are accomplished using only one line of input. Also included as a standard are advanced canned cycles to produce spirals and ellipses. They are done easily and without the use of a CAM system.

Ellipse

This truly advanced cycle is so easy to use. Answer seven simple graphic prompts and the cycle will cut a true ellipse!

Spiral

With this cycle you have the unique ability to machine cones or taper threads. This cycle is invaluable for thread milling, too.

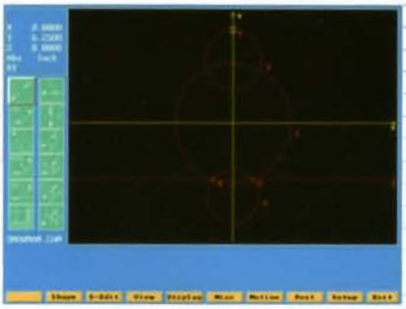


Rectangular profile

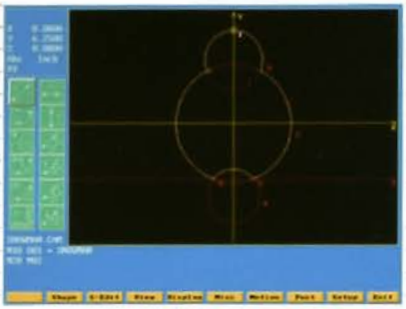
By answering five simple prompts, a rectangular shape can be profiled on either the outside or the inside.

CAM FORMAT

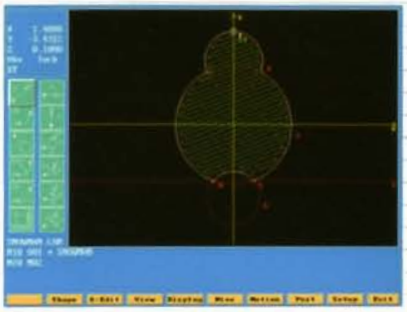
BUILT-IN 2-1/2 D CAM



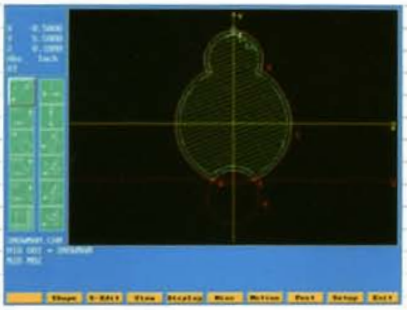
Anilam's integrated CAM programming feature allows for an easy method of creating a program for a tool path. Start here by defining the necessary geometry.



Next, join the geometry to form the desired shape.



Then, define the transitions between the elements and generate the tool path.



The final result is the exact tool path for the shape.

A single push of the post button will create a full version of a G-Code / M-Code program.

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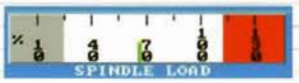
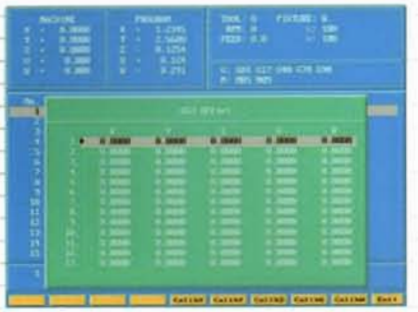
On-screen gauges



With ANILAM, the unique facility is available to display gauges direct on the screen, right where you want them to be. Our CAN-bus driven I/O-modules allow for inputting analog signals, for example for monitoring spindle load. Such signals can then be displayed graphically on the screen by configurable gauges.

Tool page



The 6000 series comprehensive tool table allows you to store up to 255 tools. You can specify diameter, length, length offsets and wear offsets.

Offline software

The 6000 series CNC software is available for offline use as an option. The offline software enables the programmer to make the program away from the machine tool, at any workstation (PC) of choice. The program can then be transferred to the 6000 series via RS-232 or by using a floppy disk or network.

Chip conveyor (option)

Renishaw touch probe (option)

Optional accessories

Several optional remote devices can be supplied for manual operations. The remote Start/Stop and the remote electronic handwheel are ideal for set up and teach modes. ANILAM's new Handy Pulser has electronic handwheel, axis selection and resolution switches, all in one.

Mpg (option)

Spidercool (option)

ACER Heavy Cutting, Heavy Loading & High Speed Machining Center

SPECIFICATIONS

General operation

Automatic mode	*
Single step mode	*
Draw while cutting (real-time draw)	*
Manual mode	*
Background functions (program, edit, RS-232 etc.)	*
MS DOS style file names and management	*
Resolution 0.010, 0.005, 0.002 and 0.001 mm	*
M,S and T code outputs for external PLC	*
Feedrate in feed per minute	*
Feedrate display	*
Spindle speed display	*
Max. rapid rates (m/min, l/min)	50/2000
Automatic accelerate / decelerate	*
Exact stop and contouring mode	*
Active modal display	*
Tool number, diameter and length offset display	*
Message display	*
Program / distance to go / machine position display	*
Loop counter and dwell time display	*
Dwell per minute	*
In position indicator	*
Automatic and programmable homing	*
Spindle orientation	*
Integrated motion setup and testing software	*
User friendly parameter setup with security levels	*
Mid-program block start and block search	*
DNC (Direct Numerical Control) Ethernet	*
Block skip and selectable block skip	*
High speed dry run and dry run with no Z	*
Teach mode	*
Programmable spindle forward / reverse / off	*
Programmable coolant on / off	*

Graphics

Rapid, feed, compensated moves differentiated	*
Isometric,XY, XZ, and YZ view	*
Automatic fit	*
Window zoom	*
Tool display	*
Display compensated path, uncompensated path	*
Simulate a section of or the entire program	*

Program management utilities

Create / copy	*
Delete / un-delete	*
List / print	*
Rename	*
Check disk	*
Floppy format	*
Disk optimize	*

Programming, editing & tools

Programming input-MDI, RS232 and floppy disk	*
Inch / metric conversion	*
Absolute / incremental programming	*
Conversational programming	*
G-Code programming	*
Blueprint programming	*
Polar / Cartesian coordinate programming	*
Help graphics	*
Zero point setting	*
Rotation	*
Mirroring	*
Scaling	*
Corner rounding	*
Corner chamfering	*
Programmable safe zones	*
Parametric programming	*
Modal subprograms	*
Subprograms with repetition & nested 20 levels	*
Integrated 2 D CAM system	*
Plane selection	*
Timed and infinite dwell	*
Work coodinate offsets	99
Full screen G-Code programming	*
Find	*
Replace	*
Scroll through program	*
Un-delete / restore line	*
Save edits / quit without saving	*
Macro programming	*
Standard blk opertations (copy, cut, paste, etc.)	*
Off-line software package	optional
DXF files converter	*

Compensations

Diameter / radius, length offsets	*
Length offset calibration (input to table)	*
Leadscrew compensation (direct input from file)	*
Backlash compensation	*
Linear compensation	*
Fixture offsets	*

Heavy Cutting, Heavy Loading & High Speed Machining Center

Number of tools in library	255

Canned cycles

Ellipse	*
Frame pocket milling	*
Hole milling	*
Circular pocket milling	*
Rectangular pocket milling	*
Bolt hole pattern	*
Basic bore	*
Unidirectional bore	*
Flat bottom bore	*
Basic drilling	*
Area clearance	*
Rectangular hole pattern	*
Basic counterbore	*
Peck drilling	*
Chipbreaker drilling	*
Spiral	*
Helical	*
Mold rotation about any axis	*
Rectangular plunge	*
Circular plunge	*
Plunge pocket	*
Rigid tapping	*
Non-rigid tapping	*
Draft angle pocket	*
Elbow milling	*

Console

Active matrix TFT display	12.1"
Full alpha-numeric keyboard	*
Function keys	*
Conversational keyboard	*

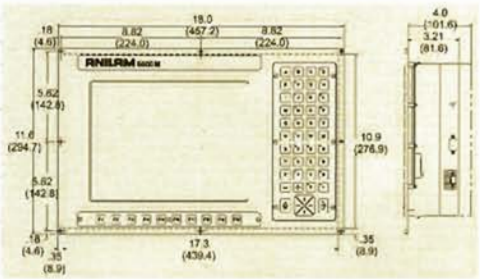
Computer, motion control and interface

Dual processor design	*
AM596DX4-133MHz processor (minimum)	*
DSP, 60MHz, 32-bit motion control processor (min.)	*
Ethernet networking (RJ-45) LAN	*
DRAM (minimum)	16MB
DRAM upgrade to 64MB	*
Hard drive (minimum)	6GB
Floppy disk drive	1.44MB
RS-422 port	*
RS-232 port	*
Controlled axes	3~4
Spindle axis control	*
P filtering with feed forward & jerk control	*
S-curve acceleration profile	*
PC bus interface	ISA
Handwheels	1
Standard I/O available	31/31
Additional I/O provided via expansion I/O module	64/31
Programmable I/O (IPI)	*

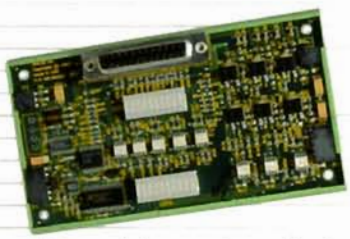
Manual panel

MPG (manual pulse generator)	*
Start and stop keys	*
Spindle forward, reverse, off keys	*
Servo reset key	*
E-stop	*
Jog resolution rapid, feed, x1, x10, x100	*
Axis selector rotary switch	*
Feedrate override rotary switch	*
Spindle speed override rotary switch	*

Optional 12.1" active matrix TFT display



I/O module



ANILAM's CAN-bus driven I/O-modules can be added as needed. Each module has 10 inputs and 6 outputs (one output can be traded for an analog input) and come as either sink or source. The I/O-module can be mounted remote, where it is needed, and fits in standard DIN-rail holders.

GENERAL SPECIFICATIONS

MODEL	EMC-2240A	VMC-1724	VMC-2040L / 2060L	VMC-2443 / 2451	SMC-2442
Table					
Table size	54" x 14"	26" x 16"	42.1" x 19.6" / 61" x 19.6"	47" x 23.6" / 52.7" x 23.6"	47.2" x 23.6"
T-slots (No, wid, x dis)	3, 0.6" x 3.2"	3, 0.7" x 4.9"	3, 0.7" x 5.9"	5, 0.7" x 3.9"	5, 0.7" x 3.9"
Table load	1,980 lbs	1,100 lbs	1,320 lbs	1,760 lbs	1,760 lbs
Travel					
X traval	40"	24"	40"	43.3" / 51.1"	42"
Y traval	22"	17.3"	20"	23.6" / 24"	24"
Z traval	20"	20"	20"	23.6"	24"
Spindle					
Spindle nose to table	4" ~ 24"	3" ~ 23"	4.7" ~ 24.8"	4.9"~28.5"	5.9" x 29.9"
Spindle center to column	22.8"	20"	24.6"	24"	25.5"
Spindle taper	CAT#40 or BT#40			CAT#40/50 or BT#40/50	CAT#50 or BT#50
Spindle speed	60 ~ 8,000 rpm	60 ~ 8,000 rpm	60 ~ 8,000 rpm	60 ~ 8,000 rpm	50 ~ 6,000 rpm
Feedrates					
Rapid on (X / Y / Z)	320 / 320 / 272 ipm 400 / 400 / 400 ipm (opt.)	787 / 787 / 787 ipm 945 / 945 / 945 ipm (opt.)	945 / 945 / 945 ipm 1181 / 1181 / 1181 ipm (opt.)	945 / 945 / 945 ipm 1181 / 1181 / 1181 ipm (opt.)	472 / 472/ 393 ipm
Cutting feedrate	200 ipm				
Accuracy					
Positioning	± 0.0005"	± 0.0002"	± 0.0002"	± 0.0002"	± 0.0005"
Repeatability	± 0.0002"	± 0.00012"	± 0.00012"	± 0.00012"	± 0.0002"
Tool changer					
Tool capacity	20 pcs	20 pcs	24 pcs	24 pcs	24 pcs
Max. tool diameter	3.15"				5.9"
Max. tool weight (each)	15.4 lbs				33 lbs
Motor					
Spindle motor (AC digital)	10 HP (15 HP 30min peak)				16HP (20HP 30min peak)
Drive motor X, Y, Z (AC digital)	2.5 HP	3.6 / 3.2 / 3.6 HP	3.6 HP	3.0 / 6.1 / 3.0 HP	3.0 HP
Coolant motor	1/8 HP	1/2 HP	1/2 HP	1/2 HP	1/2 HP
General					
Power required (approx.)	24 HP @90A	28 HP @100A	28 HP @100A	28HP @100A	30HP @120A
Air required	96 psi				
Floor space (L x W x H)	130" x 96" x 94"	92" x 108" x 93"	115" x 100" x 100" 166" x 100" x 100"	117" x 100" x 100" 167" x 100" x 100"	122" x 90" x 102"
Min. operation space	144" x 115" x 103"	146" x 156" x 103"	193" x 154" x 109" 244" x 154" x 109"	194" x 154" x 114" 245" x 154" x 114"	190" x 154" x 112"
Net weight (approx.)	8,360 lbs	9,112 lbs	12,100 / 14,200 lbs	17,160 / 17,680 lbs	15,620 lbs
Gross weight (approx.)	8,500 lbs	9,632 lbs	12,716 / 14,800 lbs	18,260 / 18,260 lbs	16,500 lbs

Note: The manufacture reserves the right to modify the design, specifications, mechanisms, etc. to improve the performances of machine without notice.
All the specifications shown above are for reference only.

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