



COMPLETE
METALWORKING
SOLUTIONS

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ISO Certified

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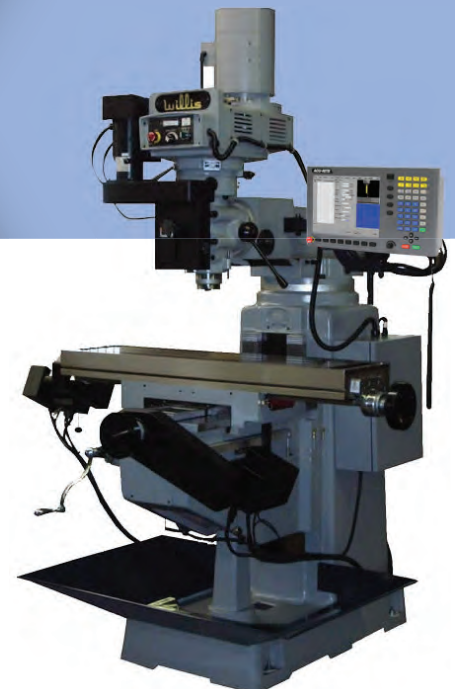


MILLPWR^{G2}



2 or 3 Axes Control
3 Axes Readout

POWERFUL CONVERSATIONAL
CNC RETROFIT SYSTEM FOR
KNEE & BED MILLS

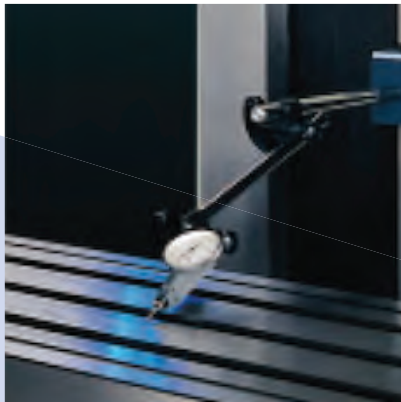


From the moment you power up your MILLPWR^{G2}® system, you'll know it was built with convenience in mind.

- Large, full-color LCD display for exceptional clarity | Full 3D contouring capabilities
- Menu-prompted conversational programming | Essential functions just a key stroke away
- A full-function digital readout system or a programmable CNC control or both!
- Powerful enough to handle any job | Easy enough for anyone to operate
- No prior programming experience necessary

WM3VS & 1050

MILLING MACHINES



Precision ground and dynamically balanced pulleys for smooth, quiet operation and long belt life.

WM3VS

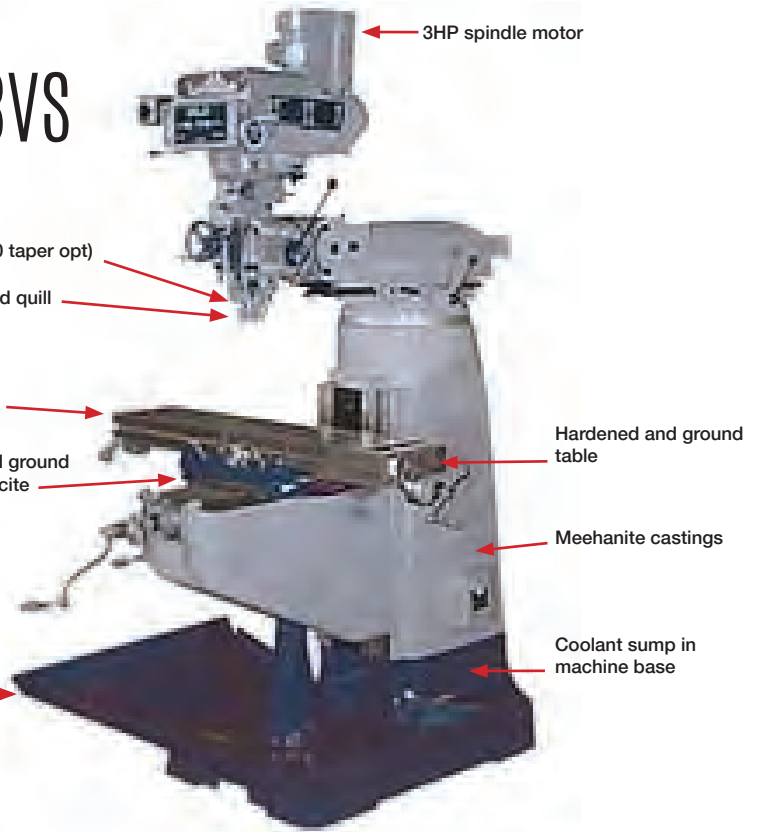
R8 spindle (30 taper opt)

Chrome-plated quill

9" x 49" table

Hardened and ground ways with Turcite

Optional chip pan



1050

Class 7 Precision spindle bearings

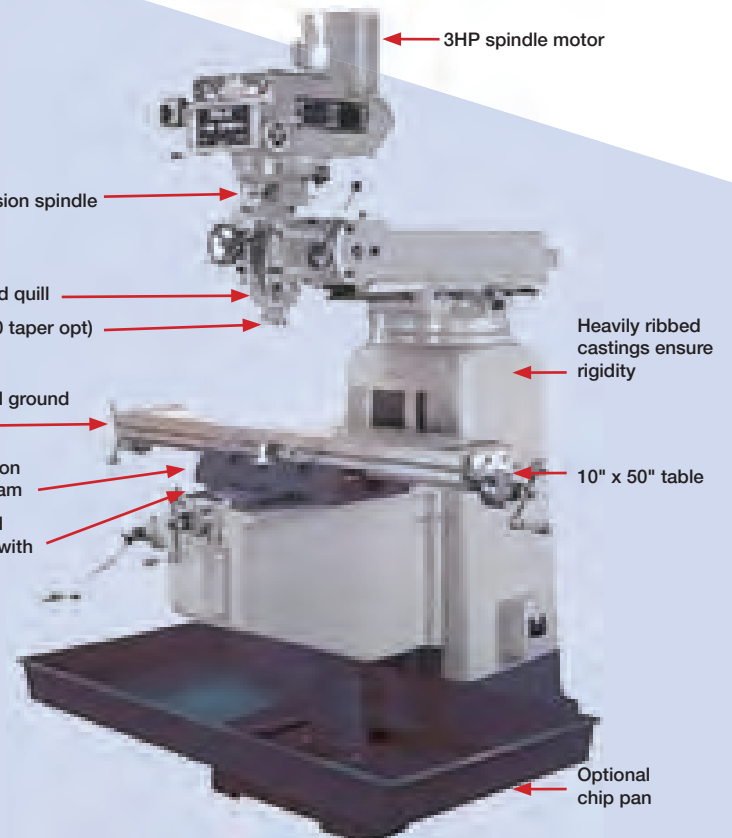
Chrome plated quill

R8 spindle (30 taper opt)

Hardened and ground table

Double locks on all axes and ram

Hardened and ground ways with Turcite



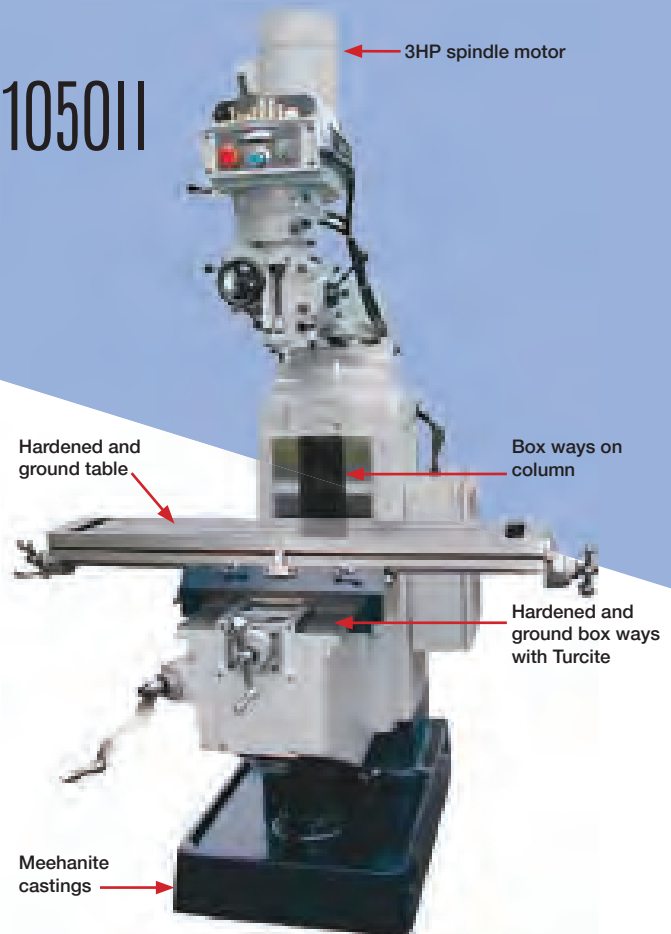
1050II & 1250II

MILLING MACHINES

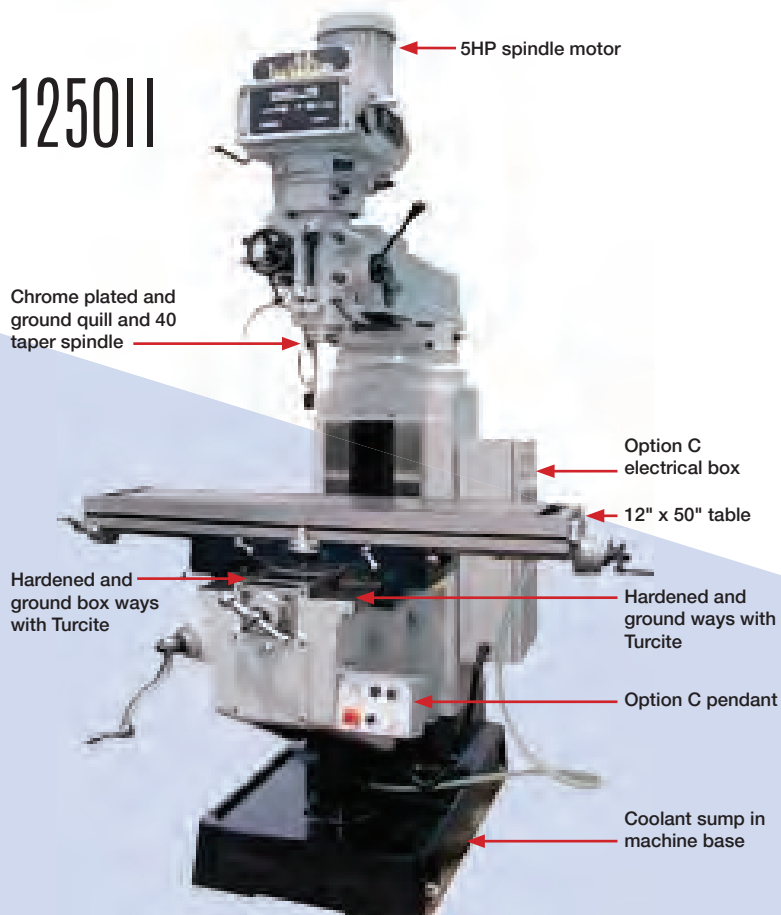


Heavy duty knee with box ways provides the rigidity needed for superb support over the full range of travels

1050II



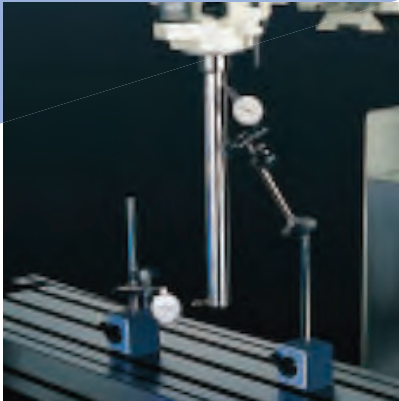
1250II



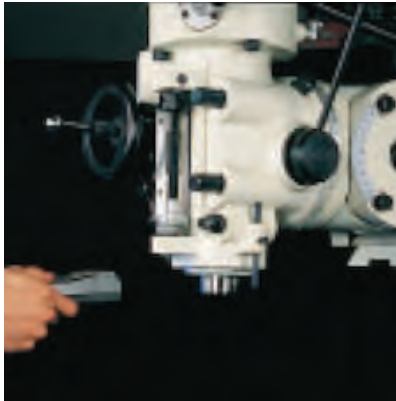
1050II and 1250II tables are capable of supporting loads up to 1,500 lbs.



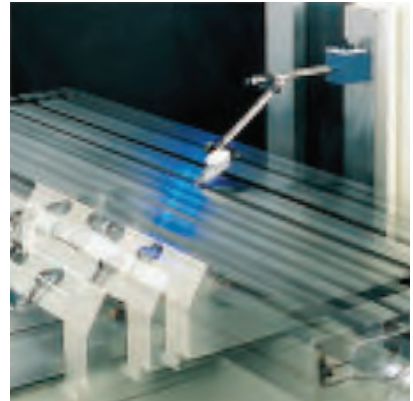
INSPECTION



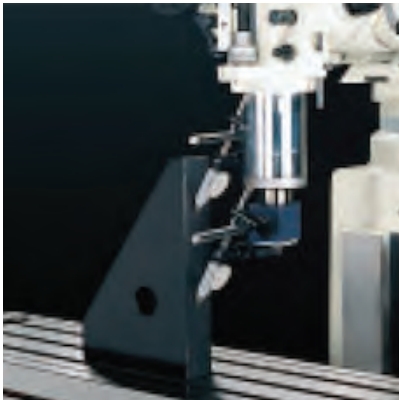
Spindle Bore Runout
Less than 0.0004"



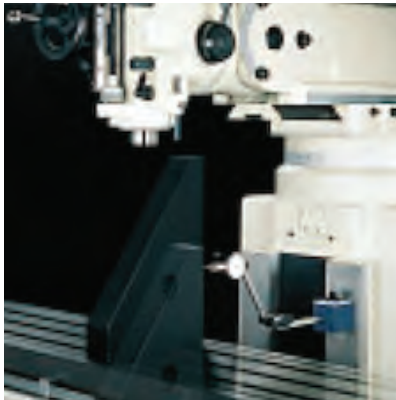
Spindle Running Noise Measuring
Less than 73 db at 1 meter



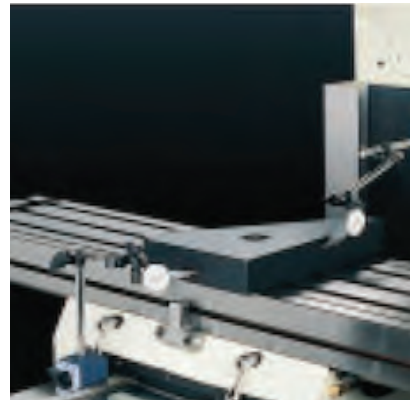
Parallelism of Table Surface to Table Cross Travel Movement
Less than 0.0008" per 12" of travel



Squareness of Table Surface to Quill Travel
Less than 0.0008" per 5" of quill travel



Squareness of Table Surface to Knee Travel
Less than 0.0008" per 12" of travel



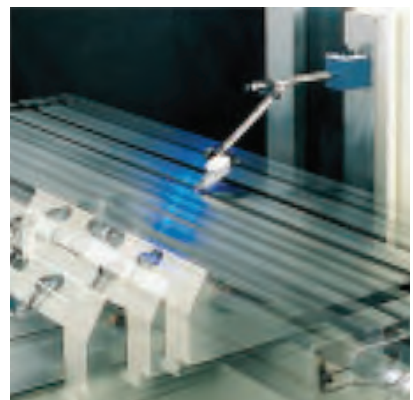
Measuring of Squareness of Longitudinal Travel to Cross Travel
Less than 0.0008" per 20" of travel



Parallelism of Table Surface to Ram Cross Transverse Movement
Less than 0.0008" per 12" of travel



Parallelism of Table Surface to Table Longitudinal Movement
Less than 0.0008" per 20" of travel



Stiffness of Head and Quill Combination



Specifications	WM3VS	1050	1050II	1250II
Table dimensions	49" x 9"	50" x 10"	50" x 10"	50" x 12"
Travels-longitudinal/cross (manual)	36" x 13"	36" x 16"	34" x 17"	32" x 17"
Vertical knee travel	16"	16"	18"	18"
T-slots (3)	5/8"	5/8"	5/8"	5/8" (4)
Ram travel	17"	24"	21"	24"
Ram swivel	360°	360°	360°	360°
Quill diameter	3-3/8"	3-3/8"	3-3/8"	4-1/8"
Quill travel	5"	5"	5"	5"
Spindle motor	3HP	3HP	3HP	5HP
Spindle speeds (variable)	60-4200	60-4200	60-4200	60-4200
Spindle taper	R8	R8 or 30	R8 or 30	40 taper
Quill power feed rates (inches per revolution)	0.00032" 0.0017" 0.0053"	0.00032" 0.0017" 0.0053"	0.00032" 0.0017" 0.0053"	0.00032" 0.0017" 0.0053"
Head tilting-left to right (degrees)	90-0-90	90-0-90	90-0-90	90-0-90
Head tilting-front to back (degrees)	45-0-45	45-0-45	45-0-45	FIXED
Spindle nose to table-min./max.	3" -18"	2" -18"	3" - 20"	2" - 20"
Center of spindle to column face-min./max.	3" - 20"	3" - 27"	3" - 24"	6" - 28"
Ground way surface width	2-1/2"	3-1/2"	4-1/8"	4-1/8"
Saddle width	18"	21"	21"	21"
Knee width	12"	14"	15-1/2"	15-1/2"
Knee height	17"	18"	20-1/4"	20-1/4"
Longitudinal power feed	optional	optional	optional	optional
Longitudinal feed motor	optional	optional	optional	optional
Table rising motor	optional	optional	optional	optional
Coolant pump	1/8HP (optional)	1/8HP (optional)	1/8HP (optional)	1/8HP (optional)
Net weight	2400 lbs.	2800 lbs.	3300 lbs.	3700 lbs.
Maximum work piece weight	750 lbs.	750 lbs.	1100 lbs.	1100 lbs.
Machine dimensions	61" x 64" x 82"	68" x 65" x 85"	68" x 65" x 92"	68" x 65" x 92"

Please note that certain travels and specifications may change due to their installation of the CNC control.

Faster set-ups,
shorter run times
and a major boost
in productivity are
just one “powerful
easy” retrofit away.

The new ACU-RITE MILL**PWRG2** control and retrofit kits can turn just about any knee mill into a productive CNC machine.

Now USB and Ethernet compatible, the new MILL**PWRG2** also features a bright 12.1" high resolution display, 1.4 GHz dual-core processor and plenty of programming capabilities — estimated runtimes, expanded tool/datum offsets, enhanced tool paths, a dxf converter — plus much, much more.

POWERFUL
EASY



The MILL**PWRG2** is a contouring control that enables you to program conventional machining operations right at the machine in an easy-to-use conversational language. It is designed for both knee mills and bed mills with up to 3 axes of closed loop controlled.

MILL**PWRG2** was developed specifically for machinists where manual and automated operation are both useful and needed. It's designed to maximize throughput by significantly reducing set-up time, scrap, and other non-productive operations, thereby increasing your efficiency, productivity and profitability.

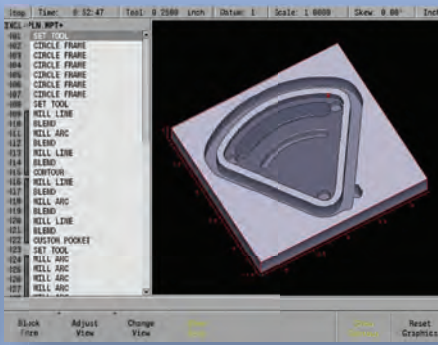
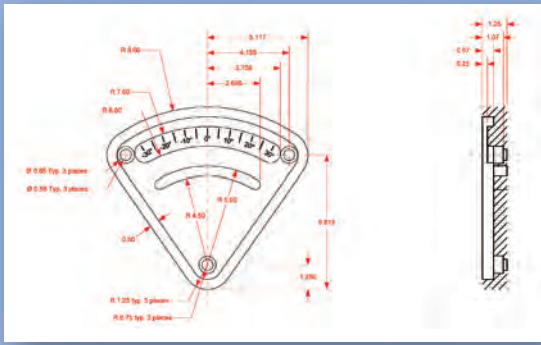
A closed-looped system with positioning feedback provided by ACU-RITE precision linear encoders (1 μ m/0.00005" resolution), MILL**PWRG2** also includes Position-Trac™, an advanced, unique feature that enables you to easily, quickly and accurately re-establish work piece zero after shutting down or power loss.

VERSATILE

CONVENIENT. EFFICIENT.



Use MILL**PWRG2** as a full function DRO, an intelligent power feed or a programmable CNC. This versatile system allows the operator to switch from full automatic mode to manual mode in just seconds. Import and run G-Code files from CAD/CAM programs to machine full 3D contoured parts. With optional spindle control, you can automatically control your spindle's speed and/or direction on milling machines that are equipped with an electronic variable speed spindle.



FROM SKETCH TO PROGRAM TO FINISHED PART...

IN JUST MINUTES!

Bring a brainstorming session to life with simple features that reduce programming time. DXF file input allows the operator to import part geometry directly from a CAD file. After the DXF file has been loaded, save on MILLPWR^{G2}'s large internal memory, USB or on your PC (via Ethernet) for easy retrieval later on.

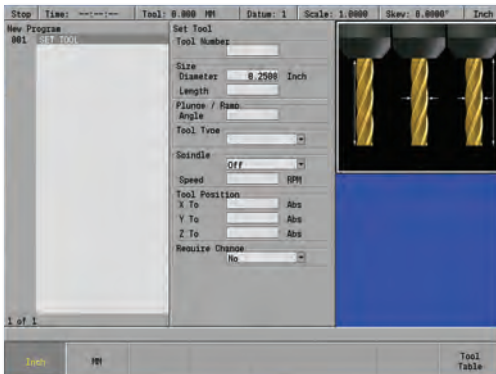


3D GRAPHICS SYSTEM

IMPROVES EFFICIENCY & ACCURACY

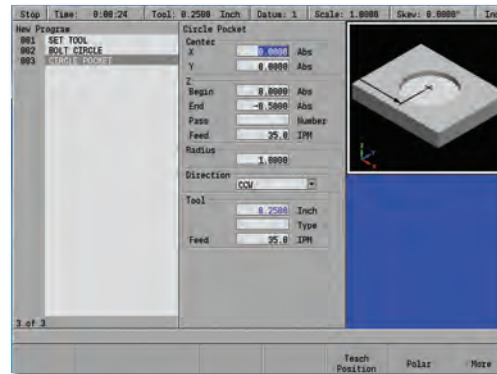
Intuitive navigation menus eliminate the need for multiple screens.

Program cycles using a simple, easy-to-understand set of machinist language prompts, are accompanied by content-specific "help" graphics. Here is a step-by-step look at the new G2 graphical interface, as a simple bolt hole circle and pocket are entered.



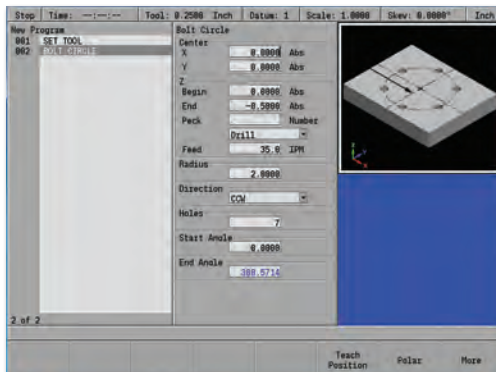
STEP 1

All programs begin with the tool. Parameters are entered in the middle column and are graphically supported in the right column for each field.



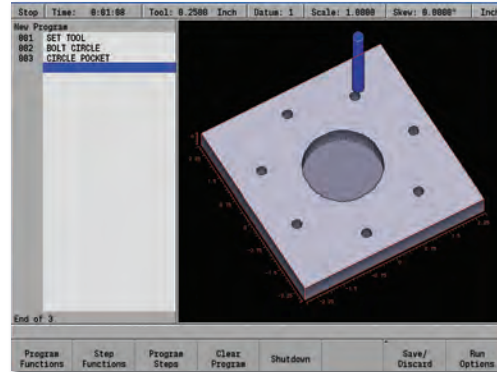
STEP 3

Create a second cycle. Adding a circular pocket that is illustrated in real time within the help graphic screen.



STEP 2

Select a cycle to be created. In this case, a circular bolt hole pattern. Once the data has been entered into the form press the USE hard key.



STEP 4

Tool paths are also displayed in 3D graphics that can be rotated and manipulated. The program is ready to run. Simply press "GO."

USER-FRIENDLY

SAVE VALUABLE TIME.

Standardized menus make it easy to program common features, simply press any function key and follow the prompts. Use MILLPWR^{G2} for lines, arcs, blends and pockets in any size, shape or pattern your print requires. There is no need to set up rotary tables or other devices. MILLPWR^{G2} also includes an engrave option for engraving alphanumeric characters vertically, horizontally, diagonally or along an arc.

Save time with the skew feature, which enables the user to program to the work piece without having to perfectly aligning it along the X and Y axes. MILLPWR^{G2} will compensate for the skew angle offset from start to finish.

The teach position feature allows the operator to use a tool, electronic Edge Finder or indicator to create a program from an existing part.



TOOL
Program tools by diameter, length, type, direction, speed



RECT
Pocket, frame, face, slot



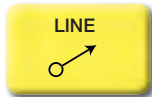
CIRCLE
Pocket, frame, ring, helix



HOLES
Full/ partial circles, linear row/column, rectangular frame and array



POS
Drill, bore, position



LINE
Defined by "from" and "to" points or by angles



ARC
Defined by "from" and "to" points or by sweep, center or 3-points



BLEND
Insert a corner radius between two lines or arcs

TOOL LIBRARY

Create a list of frequently used tools to save time while programming a part.

TOOL OFFSETS

Automatically compensate for the tool's dimensions while machining.

CUSTOM POCKET/ISLANDS

Clear an irregular contour with multiple passes and finish passes.

TOOL PATH ESTIMATION

To help reduce machine time and assist with quotes. Easily manipulate part programs to save time and reduce program steps.

EXPLODE

Explode a program step into several, more detailed steps for easier editing.

REVERSE STEP/REVERSE PATH

Switch the end points and tool offset of any step or path.

CHANGE STEPS

Change or edit the depth, offset, feed rate of several steps simultaneously.

TRAVEL LIMITS

Establish maximum travel limits with software, instead of costly mechanical switches that reduce travel.

FEED RATE OVERRIDE

Adjust the feed rate without exiting the milling function or program. Spindle speed override in optional spindle control console.

REFERENCE TABLES

Look up recommended surface speeds in seconds.

REMOTE STOP/GO

Start and pause movement with a hand held switch.

JOG CONTROL

Move quickly from one location to another utilizing one or all axes simultaneously.

RETROFIT PACKAGES

WHAT'S IN YOUR SHOP?

Update your existing mill with ease. Custom engineered, bolt-on retrofit packages are available for the following machines:

ACER	LILIAN
ACRA	MILLPORT
ALLIANT	MSC
ARGO	REPUBLIC LAGUN
ATRUMP	SHARP
BIRMINGHAM	SOUTHBEND LATHE
BRIDGEPORT	TOP ONE
CHEVALIER	TURNPRO
CLAUSING	VECTRAX
ENCO	VICTOR
JET	WILTON
KENT	YCI

AND MANY MORE!



KIT INCLUDES:

- G2 CNC control
- Remote stop/go switch
- Ball screws
- Servo drives and motors
- Motor mounting castings and hardware
- Precision linear encoders (1um/0.00005" resolution)
- Handwheels
- Console and encoder mounting hardware
- Machine specific bracketry
- Recovery drive

CNC systems available for knee mills and bed mills. Electronics package available for CNC-ready machines.

SHOP TOUGH

DEPENDABLE.

Every MILLPWR^{G2} system includes components that have been designed, manufactured and tested to withstand the elements of contamination found in even the harshest machine shop environment.

From the durable operator console to the hardened ballscrews and powerful DC servo motors, the components of each system are protected with die-cast metal enclosures, sealed keypads and interlocking lipseals to further protect from metal chips and other contaminants.



MILLPWR^{G2}

SPECIFICATIONS

FULL FUNCTION DRO

Significantly improve efficiency, productivity and profitability; may be used automatically or manually.

IMMEDIATE PART-VIEW GRAPHICS

Verify part-programs before and during machining to reduce errors and scrap; use zoom features for intricate details.

BUILT-IN CALCULATOR

Solve geometry and trigonometry problems. Save time and avoid errors by transferring results directly to your part program. Calculate spindle speeds with the RPM calculator.

USB CONNECTIVITY – FRONT & BACK



Loading and off-loading programs, importing data via USB is now a plug-and-play convenience, with USB ports located on both the front and the back of the new G2 control with mouse and keyboard support.



DRO Mode

Multiple Datums (Fixture Offset)	99
Skew	Yes
Zero Reset	Yes
Near Zero Warning	Yes

PGM Mode

Estimated Machining Time	Yes
View Graphics	2D Line / 3D Line / 3D Solid
Block Form	Yes, w/ User Override
Custom Pocket & Islands	Yes, Ramp Feed & Optimized Path
Replication (Repeat, Rotate, Mirror)	Yes
Engrave (Line / Arc)	Yes
Program Manager Navigation	Tree w/ Program Type Filter
Long Program Names	Yes
Program Preview	Listing & Graphic w/ Estimated Machining Time
Explode Step	Hole Patterns & Repeat / Rotate / Mirror
Reverse (Step / Path)	Yes
Shift Steps	Yes
Auto Save (Program)	Yes
Program Size Limit (MPT only)	9999 Steps
DXF File Import	Yes
G-code Program	Yes, w/ Graphics Support/Simple Edit
On-Screen Help	User Manual Viewer (Text & Graphics)
Parts Counter & Clock	Yes
Manual / Auto Z Control	Yes, 3 Axes
Optional Stop (G-code Only)	Yes
Feed Override	Potentiometer
Error Compensation	Linear & Bidirectional Non-linear

Hardware

Processor	1.4 GHz Dual Core Celeron® Processor
Display	12.1" 1024 x 768 Color TFT LCD
Internal Storage	2.5 GB CFAST (SATA) User
Remote Pendant (Stop / Go)	Yes
Housing	Die Cast Metal (Bezel & Back Sheet Metal)
Connections	Ethernet, USB (x2)
Protection	IP 54 (front) / IP 40 (Back)

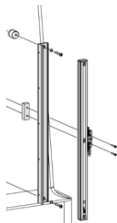
MILLPWR^{G2}

MILLPWR^{G2} is backed by a comprehensive 2-year warranty and supported by a nationwide network of factory trained and certified distributors. Our distribution network is readily available to provide you with prompt delivery, product training and skilled technical service installation and support.

Accessories

KNEE SCALE FOR COUPLING Z (QUILL) AND W (KNEE)

This option provides the machine operator positional feedback on the control when the knee is manual moved.

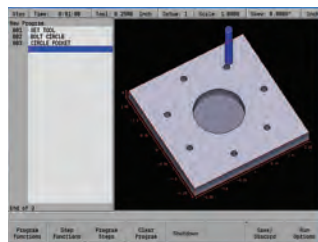


ELECTRONIC EDGE FINDER

The edge finder allows you to set datums quickly and easily, without leaving marks on the workpiece.



Options



UPGRADE

Upgrading from an old MILLPWR^{II} to MILLPWR^{G2} only requires the new G2 console and mounting arm.

OFFLINE SOFTWARE

This allows you to create programs on a Windows compatible PC and permits those programs to be loaded into the MILLPWR^{G2} via USB or ethernet.



ACU-RITE offers a complete line of digital readouts and precision linear encoders.

ACU-RITE[®]

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