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Data Sheet

Kent USA KTM-3VKF Knee Mill with MillPwr G2

OUTSTANDING FEATURES:

3 HP spindle motor, variable speed milling head with AC-Frequency drive head, digital RPM display, spindle load meter, and automatic spindle direction reversal when switching between high & low speed ranges
60-550-4500 spindle RPM (Hi/Low gear)
Automatic centralized lubrication system with metered check-valves
Single-phase or 3-phase power without the need for a phase converter
Hardened and Ground (Hrc-52) table surface and all slide ways
Easy conversational programming, DRO-mode allows for full manual operations
Engraving feature and DXF file import
12.1" 1024 x 768 resolution display with USB/Ethernet (RS-232) with 2.5GB Flash
Dual integrated simultaneous interlocked emergency shut off of both spindle and CNC control

GENERAL SPECIFICATIONS

Table Size	50" x 10" (54" x 10" optional)
Table Travel	36" (32" w/ cnc control)
Saddle Travel	15.25" (14" w/ cnc control)
Knee Travel	15"
Ram Travel	22"
Quill Travel	5" (4" w/ cnc control)
Quill Diameter	3.375"
Spindle Motor	3HP (inverter-duty)
Spindle Taper	R-8 (NMTB-30 or Quick change spindle optional)
Spindle Speeds	60–550–4500 rpm (60–6000* on HS head optional)
Overall Width	102"
Overall Depth	79"
Overall Height	90"
Table to Floor	34" – 49"
Spindle to Table	2.75" – 17.75"
Spindle to Column	5" – 27"
Maximum Workload	850 lbs (centered)
Shipping Dimension	72" x 72" skid
Shipping Weight	3,300 LBS
Net Weight (approx)	3,100 LBS

*** 6000 RPM high speed head option is geared for light duty cutting of plastics materials or small endmill/engraving work where spindle RPM is at least 1000 or higher. The maximum 6000 RPM is rated at 30 minutes continuous use.**

Power Requirements:
220V 3-phase or 1-phase for machine, 10A (15A for 1-phase); Optional 440V requires 3-phase, 7.5A
110V dedicated for CNC control, 20A

Total Package Price for (1)
Kent USA KTM-3VKF Knee Mill with MillPwr G2 2-axis CNC……..……(*ASK TO YOUR SALES MAN*)
Kent USA KTM-3VKF Knee Mill with MillPwr G2 3-axis CNC……..……(*ASK TO YOUR SALES MAN*)

OPTIONS AND ACCESSORIES (*ASK TO YOUR SALES MAN*)

Quick change tooling package (Mach-1)*
NMTB-30 spindle*
Knee (z-axis) power feed*
Air power drawbar (Maxi-Torque, made in USA)*
Chip tray*
Flood coolant system (Built-in base)*
4" Riser block*
6" Riser block*
8" Riser block*
High-Speed (HS) 6000 RPM spindle (single gear) option*
XL version with 10x54 size table instead of 10x50 table*
440V Power instead of 220V*

CNC CONTROL OPTIONS (*ASK TO YOUR SALES MAN*)

Programmable AMI spindle control functions with override adjustment*
3-D Edge finder*
Knee Linear encoder feedback for coupled Z-axis position*
On site start up training (1-day)*
(requires 1 to 2 weeks lead time for travel arrangements)

***Please note:** **Installed options may require a deposit; which is non-cancelable and non-refundable.**

AC-Freq drive head - a better way:
AC-Freq drive models vary spindle rpm by changing the frequency (Hz) of the power to the motor by electronic means via a frequency inverter. No more sliding vari-disc with plastic inserts means a more reliable milling head with less maintenance issues. Runs quieter and smoother than standard conventional mechanical sliding pulley drive systems. Three phase power or single phase power. No need for a phase converter – great for the shop or at home.

Did you know?
In IMTS-1992, Kent show case the first AC-Freq drive head on a knee mill to the general machine tool public. This caught our competitors by surprise and generated a lot of interest – well actually more from our competitors than shop users at the time. We are the first to put in a digital rpm display for easy and precise spindle speed adjustment. We are the first to put in an analog spindle load meter. Today, we lead this field with the highest performance AC-Freq drive head on the market with 0-4500 rpm in under 3 seconds. We use the latest generation of flux-vector inverter drives made in Japan – for performance that is second to none. An optional high-speed head with 6000 rpm spindle is also available – again, a first in its class. Some lead, others follow.

We don't use 3rd party installer:
It is surprising to us that most of our competitors in this field actually do not install the cnc package themselves – they usually hire a 3rd party person to do the installation. While this saves overall cost, we believe it does not provide the best overall quality and reliability for our customers. A 3rd party installer gets paid per job, whether it takes 1 day or 1 week to finish the job. His main goal is to get it done as quickly as possible, not necessary do the best job possible. In contrast, Kent cnc mills are installed by full-time Kent employees – his job is to do it right. Not the fastest way every time, always the right way every time. Take comfort in knowing that your cnc mill was done right.

A highly recommended option:
A quick-change tooling system that allows quick tool change while preserving the tool length preset will more than pay for itself in a relatively short amount of time. The standard R-8 spindle design was simply not meant for cnc uses. A good solution is the Mach-1 quick change tooling package. Another way is to go with a NMTB-30 spindle and an air-powered drawbar. This later method yields better performance in terms of heavy cutting applications, since a 30-taper tool holder is normally more rigid than a R-8 style quick change adaptor/holder. The Universal Kwik-Switch system is an alternative to the NMTB-30 spindle where heavy cutting applications is an issue. Here the standard R-8 spindle is replaced with a custom Kwik-Switch spindle.

More info on Mach-1 system: http://www.mach-1tooling.com
More info on Kwik-Switch system: http://www.toolingsystems.com/univ/kwikswitch

Acu-Rite MillPwr CNC System:

Outstanding Features:

- USB + Ethernet compatible (RS-232)
- Simplified navigation that eliminates multiple menu screens
- Upgrades available for all legacy MillPwr models
- 12.1” high resolution display
- Available offline software
- Estimated runtime feature
- Expanded tool/datum offsets
- Windows off-line programming station
- Filename filter search
- Tree file manager navigation
- Auto save (program)
- 9,999 steps program size limit
- Extended support plus G80 series drill cycles
- Block form solid model 3D graphics
- Hard keys & pop-up menus for program step navigation
- Circle (Pocket, frame, ring, helix)
- Tool library
- Multiple datum’s fixture offsets (99)
- Line/3D shaded graphic view
- Linear & bidirectional non-linear error compensation

Position-Trac scale has absolute encoder technology. This allows MillPwr G2 control to find machine “home” position in any axis by moving only up to 2” of travel. Once homed, work piece datum is established and the control can repeat a position even after being powered off. As an added benefit, software limits can be set to safely keep machine travel within machine travel limits without the need of additional hardware limit switches and home switches.

The quick-release knob allows the quill to be quickly release from the Z-axis drive mechanism so that the operator can use the quill/handle freely in manual DRO mode. The Z-axis position readout is maintained to allow Z-position reading/display while in this manual DRO mode.

MillPwr G2 is manufactured in the United States at Acu-Rite’s ISO-9001 registered facility. MillPwr G2 is backed by a comprehensive 1-year warranty.

More info on Acu-Rite MillPwr G2 CNC System: http://www.acu-rite.com