RAY-RAN

TECHNICAL SPECIFICATION

- 600mm x 300mm x 175mm XYZ axis (approximate)
- 910 mm x 480 mm table size
- High Quality 1.5KW Router Spindle
- Variable spindle speeds from 2400 rpm to 24000 rpm
- High quality guide rail and lead screw system
- Positional homing switches
- Total enclosure safety cabinet for user protection
- Internal lighting
- Emergency Stop Button
- Computer interface with cabling and Windows™ **Flashcut CNC** PC software
- Low cost CNC programs available to any International test standard
- 220-240 volts 1 ph 50 Hz
- Uses industry standard G & M codes
- Product user manual
- CE declaration certificate
- 1 year return to base warranty

OPTIONAL ANCILLARIES

- Tooling and clamping kit
- Pipe clamping fixture
- Single flute tungsten carbide milling cutters
- Pre-written CNC programs
- Dust extraction
- I/O spindle expansion board
- Auto tool change system & tool rack

WEIGHTS & DIMENSIONS: RR/CNC2	
Net Weight (kg)	150
Width (cm)	123
Depth (cm)	83
Height (cm)	83

CNC2 SAMPLE PROFILE CUTTER

The **Model 2 CNC Sample Profile Cutter** designed and manufactured by Ray-Ran is the ultimate bench top 3 axis vertical milling machine used for Test Sample Preparation and 3D rapid prototyping.

It is has set new standards for cutting hard dense polymer sheets and laminates up to 100mm thick as well as polyethylene and polypropylene pipes that are used within the gas and water industry. The versatility of the machine makes it ideal for Research and Development departments, Laboratories and Universities.

Totally enclosed for operator safety the **CNC2** comes with a bed size of 910mm x 480mm which has tennon slots for clamping down the sample. Travel distances on the X, Y and Z axis are 600mm x 300mm x 175mm respectively and each slide way is fitted with high quality lead screws and linear guide rails for precision and accuracy. Cutting feed ranges up to 2500mm/min can be achieved for a fast accurate milling process with each axis driven and controlled by advanced stepper motor technology. Homing switches are fitted as standard to each axis so machine and program co-ordinates can be set easily on a day to day basis ensuring accuracy and repeatability especially if you are using a static clamping fixture for your machining process.

The compact, high torque 1.5KW high speed router spindle which is fitted has a variable speed range from 2400 rpm to 24000 rpm and has a milling cutter capacity of up to 16mm diameter when fitted into industry standard ER25 collets. The Routers spindle speed is controlled via the control panel dial as standard or the optional spindle I/O expansion board so it becomes fully functional using the **Flashcut CNC** operating software. With this option,

spindle speeds can be set within the G-Code program file and spindle on/off functions selected using specified M-codes. High quality custom made single flute tungsten carbide cutters ensure a superior finish on any machined sample.

To compliment the machine a full clamping kit can be supplied for standard work holding and machining applications. For more specialised work such as machining thick tensile test pieces from industrial polyethylene pipe samples, bespoke work holding fixtures can be designed, manufactured and supplied by Ray-Ran to meet customer's requirements.

Pipe work is supplied as standard for air cooling to reduce the cutter temperature when machining components and the machine can also be fitted with dust extraction. The fully enclosed cabinet has an internal light and an electrical safety interlock to ensure operator safety when the cabinet door is in the open position.

The **CNC2** is supplied with **Flashcut CNC** operating software which is a dedicated real-time CNC program for use on a PC or Laptop. It interfaces effortlessly with the machine and uses industry standard numerical control G-Code and letter addresses for programming. Pre-written CNC programs are available direct from Ray-Ran for any shape or size of test sample or to any International test standard.

If you require a larger machine than the CNC2, Ray-Ran can design, develop and manufacture bespoke alternatives to customer's individual needs. Feel free to contact us to see if Ray-Ran can meet your requirements.

REAL-TIME CNC CONTROL IN A FLASH

Flashcut screen
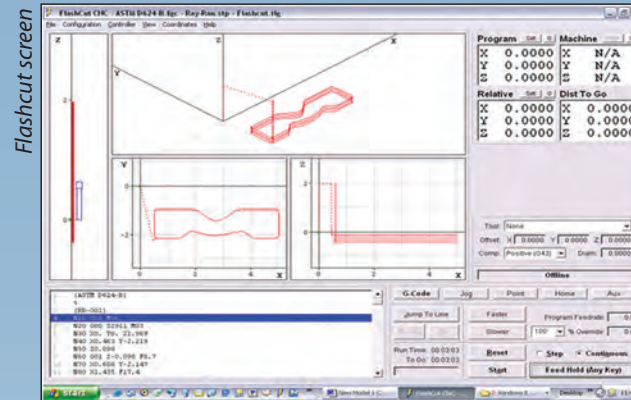
Flashcut CNC is a dedicated software package which gives high performance low cost CNC results, and is supplied as standard with both models of the Ray-Ran **CNC Sample Profile Cutter**. Effortlessly integrated between machine and PC, Flashcut CNC uses standard numerical G-Code and Letter Addresses for real time CNC control.

The **Flashcut CNC** software has an easy to use, yet powerful operator control panel that puts all of the machine control you need at your fingertips. It has been meticulously engineered to work seamlessly with 64 and

32 bit versions of Windows based operating systems without changing sensitive operating system parameters. It dynamically displays the tool path while sending real time motion commands to the **CNC's** Signal Generator over a high speed USB connection for smooth, dependable, accurate motion on most PC's or Laptops. The system has been designed to accept industry standard G & M codes ensuring full compatibility with leading professional Computer Aided Design and Computer Aided Manufacturing software (CAD/CAM).

For the experienced user of Computer Aided Design software such as AutoCad, simple 2D drawings can be imported into the software as .DXF files using the **Flashcut CNC's** Import feature. Once simple set up parameters are configured the software will generate a simple G-Code program to machine the part. If you have CAM software, programs generated by your Post Processor can also be imported as .FGC files direct to the **Flashcut** software, the program will then generate the cutter path in the viewports on the main control panel.

For the novice, pre-written CNC programs are also available direct from Ray-Ran for any shape or size of test sample to any International test standard, eliminating the need for CAD/CAM trained operators or skilled CNC programmers.

TECHNICAL SPECIFICATION

- Easy to use main screen and control panel
- Program list box
- G-code program editor
- Feedrate override selector
- Step and continuous run modes
- Digital readout display inc. Program, Machine
- Relative and Distance to Go co-ordinates
- Full 5-axis support
- Tool life management system
- Very accurate runtime estimate
- Configuration wizard
- Advanced contouring
- Multi-screen viewports
- DXF import
- Tool path generator
- Cycle program creator including, Face Milling, Pocketing,
- Engraving, Hole Patterns and Custom
- Cutter compensation feature
- Main screen display units (english/metric)
- All G-Code and M-Code variables catered for
- G-Code teach box

MIN PC REQUIREMENT

- 1 GHz or faster processor
- 1 GB of RAM
- Windows XP, Vista or 7 either 32 or 64 bit
- At least 1 available USB port