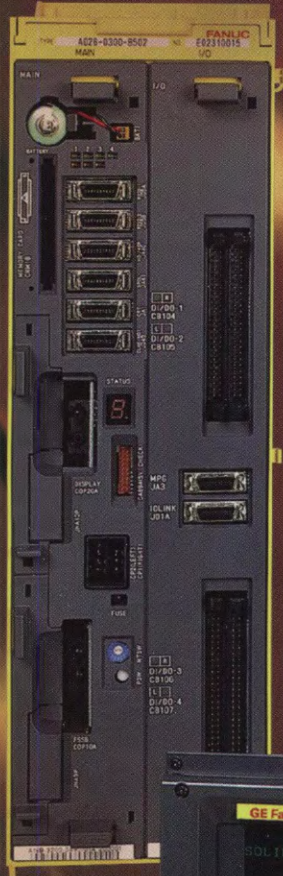




Series Oi CNC Family

GE Fanuc Automation

www.gefanuc.com



High Reliability CNC for Entry-Level Machines

The Series Oi CNC Controller Family

Loaded with premium features to ensure maximum productivity:

- 100% compatibility with the previous GE Fanuc Series 0, no learning curve required
- Multi-language support (English, German, French, Italian, Spanish, Portuguese, Polish, Hungarian, Swedish, Dutch, Japanese, Chinese and Korean)
- Simple programming and operation with Manual Guide Oi
- Operator friendly graphic display for visual part program verification
- Extended help functions and alarm/operation history
- High-speed machining for better quality parts, faster
- Tool life management for maximum machine utilization
- Cutter compensation for print dimension data input
- Canned cycles for simplified part programming
- Custom Macro B for extending existing canned cycles, or creating new ones
- Rigid tapping for high-quality tapping with low-cost, solid taps
- Skip cycle programming for on-machine probing.

The new Series Oi CNC is the proud successor to the Series 0, the world's most popular CNC with more than 400,000 units in service. It demonstrates the unsurpassed performance and reliability of GE Fanuc CNCs, available on a wide range of affordable machine tools.

The Series Oi is designed for entry-level workshop machines, and includes over 200 standard features that will immediately increase the productivity of your workshop, and will continue to deliver results over the life of your investment.

The Series Oi Family of controllers features two different models: the "Series Oi Mate" which is the entry-level CNC controller of the Series Oi Family, and the full-featured "Series Oi".

Both models are compatible with the latest GE Fanuc drive technology of the ALPHAi or BETAi Series.



Series Oi

Key Features and Benefits

GE Fanuc is the industry leader for high-performance, high-reliability CNCs. Using advanced microchip technology, our CNCs are compact yet rugged. The advantages of our precise, high-performance digital servo systems will be seen in the quality of every part that you make.

With a two-year standard warranty and an average fourteen-year MTBF, it may be a long time before you need to take advantage of our technical and replacement part support. However, GE Fanuc offers a wide range of value-added services that can lower your overall cost of ownership.



Premium Features Included

The Series Oi includes over 200 features, each designed to enhance your machine's productivity over the lifetime of your investment. Designed for simple turning, milling, cylindrical or surface grinding applications, the Series Oi is easy to operate and program, and tools are provided to make it easy to troubleshoot any CNC, drive or machine problem.



Series Oi Mate

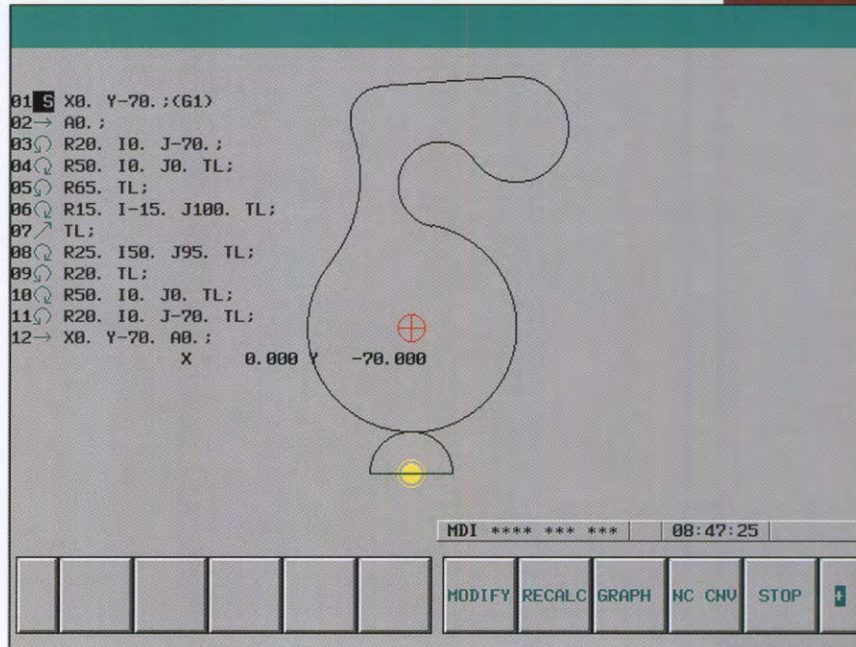


G-Code and M-Code Assistant

At any time during the design of a part program, it is possible to use the Assistant, which describes a particular G- or M-Code. The description of the code is textual and graphical. It is possible for a machine tool builder to customize the M-Code assistant, adding new M-Codes or modifying the existing ones to fit the particular machine requirements.

Contour Programming

MANUAL GUIDE 0i features contour programming to allow the user to create complex contour figures with a combination of lines and circles. Eleven types of fundamental contour elements are available.

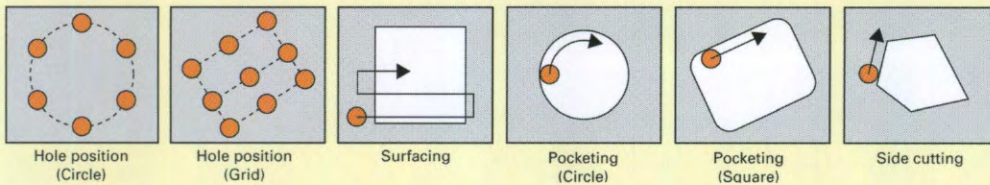


Contour Programming

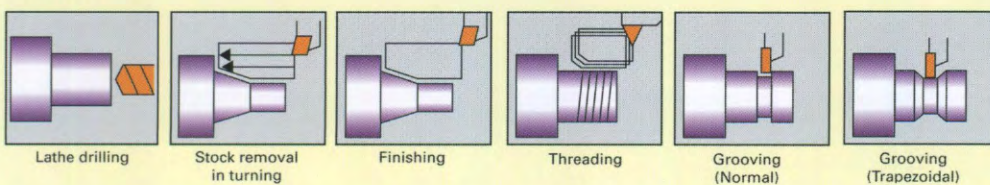
Advanced Graphical Canned Cycles

In order to ease the programming of lathes or milling machines, Manual Guide 0i features various canned cycles. The operator simply fills the required fields on the graphical CNC screen and the program is created automatically.

Milling cycles



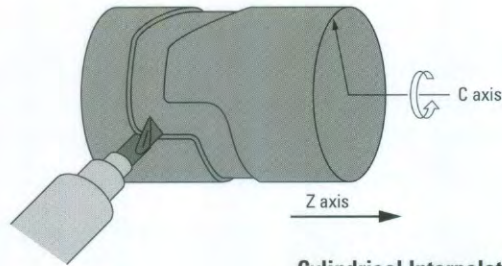
Turning cycles



Advanced Functionality

Interpolation

In addition to Linear or Circular Interpolation, the Series 0i features Helical Interpolation, Cylindrical Interpolation (for cylindrical groove cutting) or Polar Coordinate Interpolation (for cam grinding or face milling using the Cartesian coordinate system).



Cylindrical Interpolation

Tool Life Management

Tools can be easily classified in various groups; tool life and tool numbers in groups can be stored in the CNC control memory in the form of simple tables.

Scaling and Coordinate Rotation (Milling only)

Program command values can be scaled easily in a range between 0.001 to 999,999 or from .00001 to 9.99999. It is also possible to rotate a programmed shape around an angle, clockwise or counter-clockwise, without changing the shape definition.

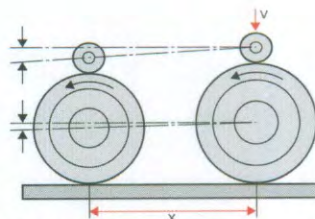
AI Advanced Preview Control (Milling only)

This function features the capability to look ahead multiple program blocks to optimize the acceleration and deceleration of the cutting speed. Machining trajectory errors in corners and small radii are significantly reduced.

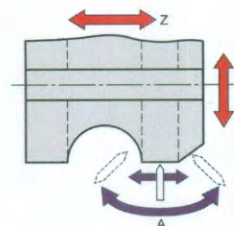
Grinding Functions

The Series 0i CNC features many special functions for grinding machines such as:

- Four types of canned cycles for cylindrical grinding allow unique grinding cycles to be programmed in one block, such as traverse grinding cycles or oscillation grinding cycles
- Multi-step skip allows up to 8 skip signals from a measuring instrument or probe to be inserted in a program
- Grinding wheels wear compensation in continuous dressing
- Dresser control in normal direction, where the dresser is constantly and automatically maintained in a direction perpendicular to the dressing shape



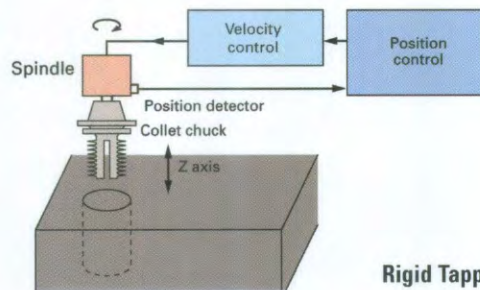
Grinding wheel wear compensation in continuous dressing



Dresser control in normal direction

Rigid Tapping

This function allows fast and accurate tapping through the synchronization of the position loop of the spindle with the tap axis (Z-Axis).



Rigid Tapping

Automatic Corner Override (Milling only)

This function automatically reduces the feed rate when cutting inner corners. It will prevent an overload of the cutter and improve the smoothness of the cutting surface.

The Series 0i CNC is designed for entry-level machines.

Applications:

- Lathes
- Milling Machines
- Machining Centers
- Grinding Machines
- Drilling

Operator Friendly CNC

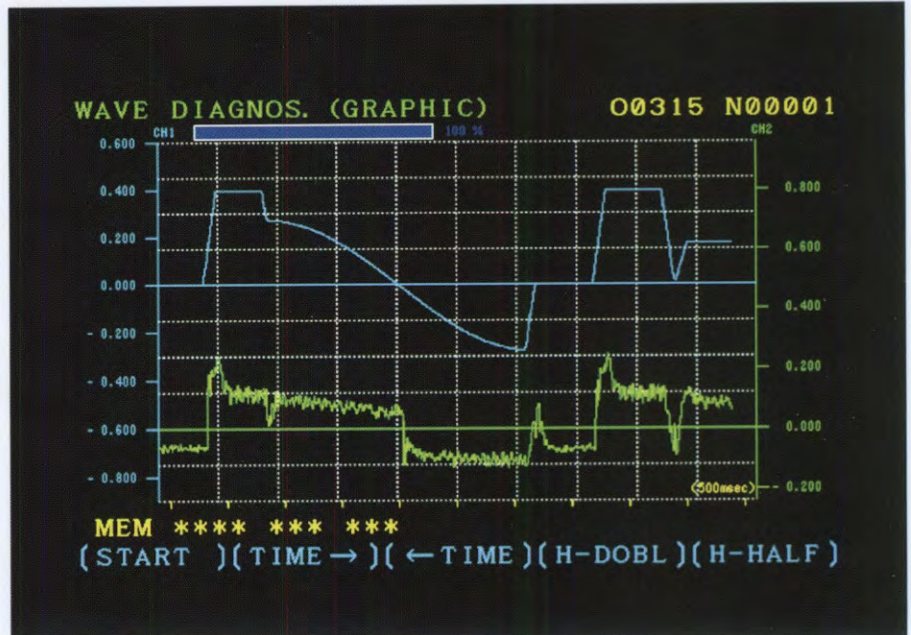
On-Screen Operator Guidance

Graphic Display

Allows the operator to visualize the part program on the CNC display before machining. Programming errors can be quickly corrected without cutting expensive material.

Advanced Assistance Functions

- **Servo waveform display:** Simplifies the tuning and diagnostics of the drive system; it visualizes the position error or torque commands.
- **History and Help function:** it is possible to display, at any time, the history of operation of the machine, as well as the list of alarms that have occurred. This monitoring is done automatically by the CNC. In addition, extensive help screens assist the operator when a fault occurs, or if he is not familiar with a particular function.



Servo Waveform Display

Quick and Simple Program Development

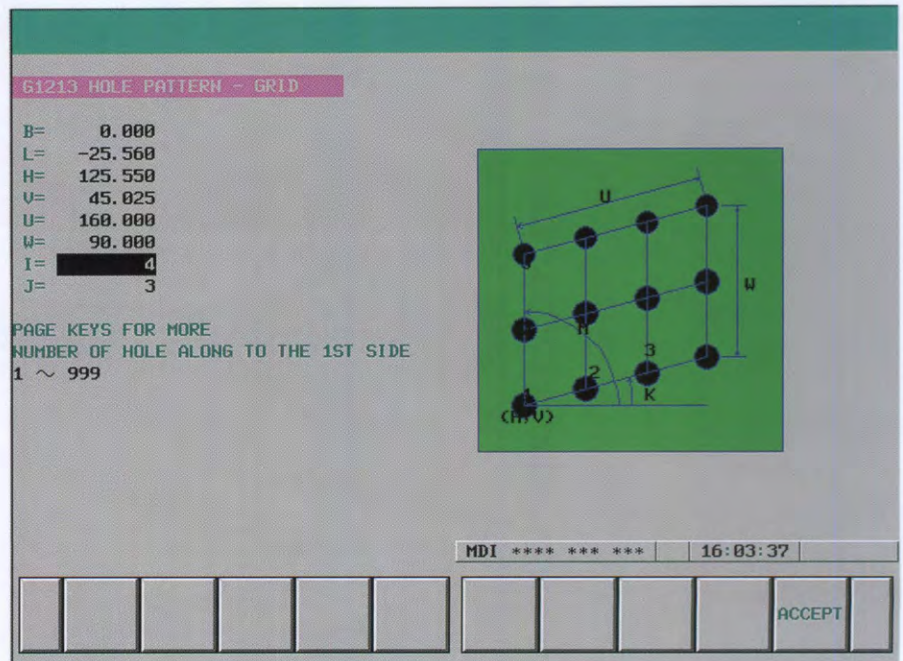
The Series 0i CNC features Manual Guide 0i, a conversational programming environment, which allows quick and simple development of part programs for lathes, milling machines or machining centers. Manual Guide 0i is available for monochrome or color screens and is built around the following functionality:

- ISO Code programming assistant
- G-Code and M-Code assistant
- Contour programming assistant
- Advanced canned cycles

ISO Code Programming Assistant

Manual Guide 0i has adopted the ISO code as a base for its part programming language. Simple motion such as lines or arcs can be entered using the simple G-Code; complex motions such as pocket machining and drilling patterns can be entered using machining blocks. The assistant helps the operator throughout the process and generates the program automatically.

It is also possible to mix programs generated by a CAD/CAM system with a program created manually or with Manual Guide 0i.



Programming Assistant

Product Specifications

CNC Hardware

- Up to 4 Programmable Axes and 2 Spindles
- 32-bit Main Processor
- 256K Byte (2100ft / 640m) Part Program Storage
- 48 Workpiece Offset Pairs (Milling Version)
- 400 Tool Offset Pairs (Milling Version), 64 Tool Offset Pairs (Turning Version)
- Embedded PMC (PLC) with up to 24,000 Steps and 0.033 μ s per Step
- Flash Memory for CNC and PMC (PLC) Programs as well as the System Software
- Easy Field Backup and Restore of the CNC Memory on a PCMCIA Card
- Wide Variety of Display Units (from 7.2" Monochrome LCD to 10.4" Color LCD)
- Optional Display unit with PC Functions

Communication

- Ethernet Communication
- Fieldbus Support (Profibus-DP, DeviceNet, FL-Net)

Programming

- Advanced Setup and Tuning Tools
- PMC (PLC) Ladder Display and Editing
- Online Help Functions and Assistants
- Handwheel Jog
- Mirror Image, Scaling or Coordinate System Rotation
- Linear, Circular, Polar, Cylindrical and Helical Interpolation
- Imperial or Metric Operation
- Background Editor and Help Function
- MDI (Manual Data Input), RS232 or DNC Data Input
- Optional Stop and Block Skip
- Multi-Step Skip, Continuous Dressing and Infeed Control (Grinding Option)
- Data Server
- Many Customization Capabilities (HMI, Macro Functions, Operator's Panel)

Drive System

- Compatible with GE Fanuc's Digital AC Servo Motors and Drives (ALPHA *i* and BETA *i* Series)

Note: Some features are not available on the 0i Mate CNC. For a complete list of features, refer to the Series 0i detailed product specification table.



GE Fanuc Automation

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