CNC FAGOR 8055 TCO/MCO

Adaptable to any application

FAGOR
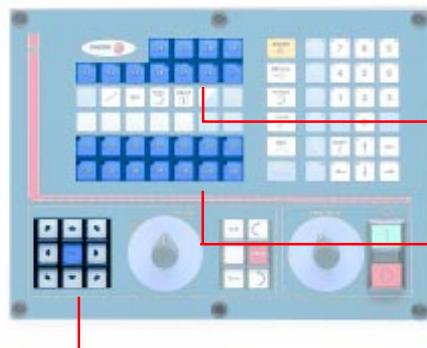
FAGOR 8055 TCO/MCO CNC

Adaptable to any application

INTRODUCTION

As a result of our continuous evolution, a new conversational CNC family has come to life: The FAGOR 8055 TCO/MCO CNC series whose PC-based tools allow customizing cycles and application characteristics to OEM's will.
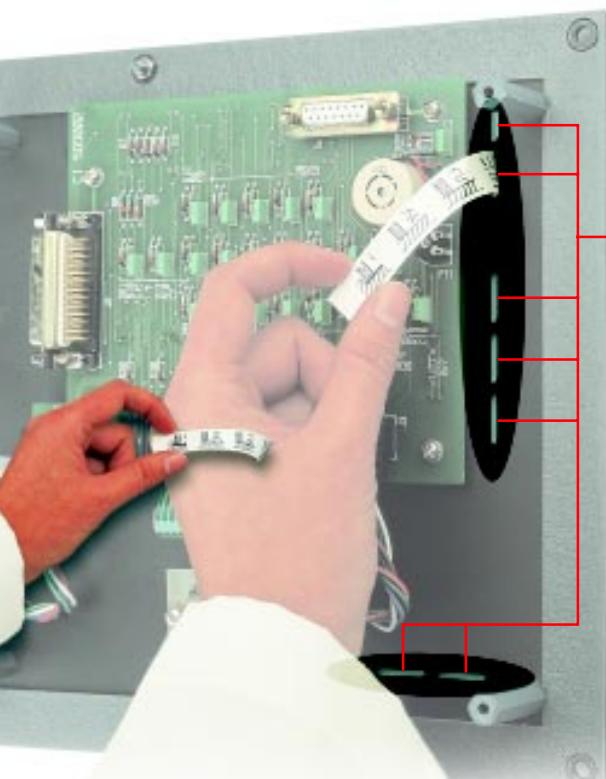
CUSTOMIZABLE KEYBOARD TCO/MCO

11 keys for direct access to canned cycles.

19 keys managed by PLC (14 with independent LED).

JOG keys.

Access to the back of the keyboard.

APPLICATIONS

The CNC 8055 TCO/MCO is especially indicated for the following applications: cylindrical and surface grinders, sharpeners, forming machines (pipe bending machines, punching machines, etc), woodworking machines, etc.

CENTRAL UNIT

The Central Unit consists of a chassis with a Power Supply for 3 or 6 modules which could have the following modules:

CPU MODULE

- 1 MB user RAM Memory.
- Flash memory for customizing, storage of tables, parameters, etc. (OEM), programs and PLC in a Memkey Card of up to 24 MB (2 MB for CNC resources) and 1 Memory Card of up to 24 MB.

ADDITIONAL MODULES

AXIS MODULES

8 analog inputs and 8 analog outputs; probe input, 8 feedback inputs and 40 digital inputs and 24 digital outputs (24 Vdc).

I/O MODULE (24 Vdc)

Additional 64 digital inputs and 32 outputs (24 Vdc), opto-coupled. For an "n" number of I/O modules, the CNC will have a total of: 40+64xn inputs, 24+32xn outputs.

I/O TRACING MODULE

Tracing module with an interface for analog SP-2 probe from Renishaw.
32 opto-coupled digital inputs (24 Vdc).
32 opto-coupled digital outputs (24 Vdc).

CPU-TURBO BOARD

Aditional 32-bit processor with math coprocessor.
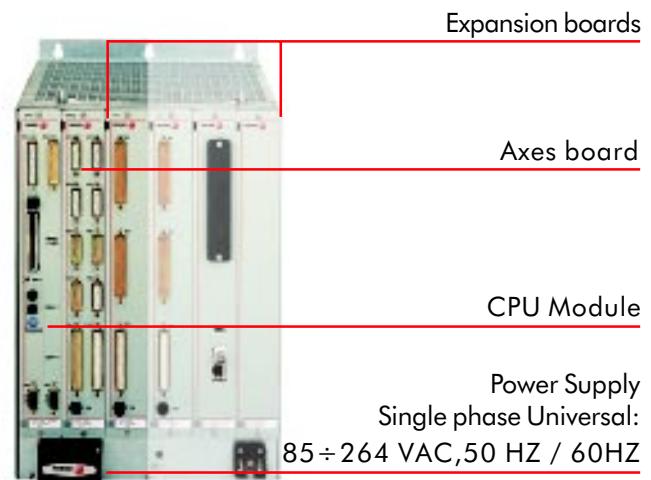
HARD DISK

Memory capacity: 2 Gbytes.
Option: Ethernet network card.

GENERAL CHARACTERISTICS	
RESOLUTION BY MACHINE PARAMETER	Up to 0.0001 mm (0.00001").
FEEDRATES	From 0.0001 mm/min. to 200 m/min. (0.00001 inch/min. to 7900 inches/min.). "F" as an inverted function of time.
MAXIMUM AXIS TRAVEL	± 99 999.9999 mm (±4000").
LANGUAGES	Software in Spanish, French, English, Italian, German, Dutch, Portuguese, Czech, Polish and mainland Chinese.
COMPENSATIONS	Ballscrew backlash and pitch error compensation (up to 255 points per axis). Cross compensation (up to 3 tables and 255 points per axis). Real time shrink/expansion compensation from the PLC.
TABLES	Machine parameters and tables to be stored in non-volatile memory.
PLC	PLC program file in non-volatile memory. Logic analyzer of the PLC. Keyboard simulation via PLC and DNC. PLC program monitoring while in manual or automatic operation mode. PLC resource status (inputs/outputs, registers, timers, counters, …). Consulting and modifying of CNC variables (override, M, S, T functions, active program, etc.) from the PLC.
OTHER CHARACTERISTICS	Look Ahead. 5 work zones.

Expansion boards

Axes board

CPU Module

Power Supply
Single phase Universal:
85÷264 VAC,50 HZ / 60HZ

(I) Video board
There are two options:
-Digital Video Board (standard), good for all FAGOR monitors.
-Analog VGA Video Board (optional), PC compatible.

(II) Memkey Card
1 Memkey Card with a capacity of up to 24 Mb can be installed for:
-Programs and user screens.
-Configuration files.
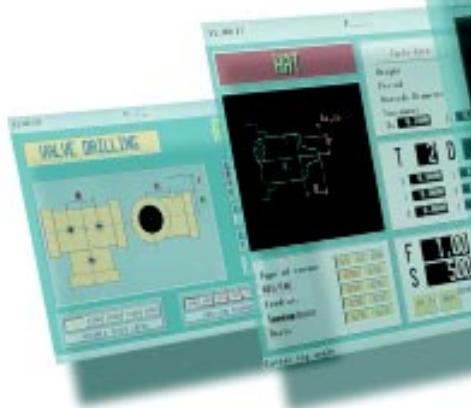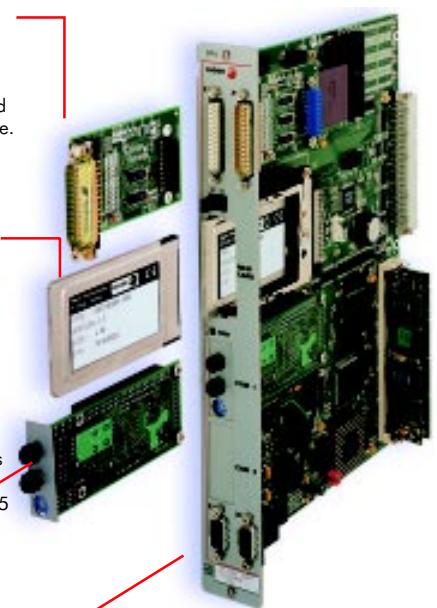
(III) SERCOS Interface
For digital communications through fiber optics between the FAGOR 8055 CNC and the FAGOR Digital Servo Drives.

(IV) Communications
Two opto-coupled serial lines:
RS-232 C and RS-422
(up to 115,200 Bauds).

FEATURES	TCO	MCO
NUMBER OF AXES	2 (Optional: 4 and 7)	4 (Optional: 7)
SPINDLE	2 full spindles + auxiliary one for live tool. Spindle orientation M19.	2 full spindles + auxiliary one for live tool. Spindle orientation M19.
INTERPOLATION	Linear: 2D (XZ). Circular: 2D. Optional: "C" axis linear interpolation: -3D (XZC), 2D (XC-ZC). -Up to 7 axes. Tangential control.	Linear: up to 4 axes; (Optional: up to 7axes). Circular(2D). Helical: up to 4 axes; (Optional: up to 7 axes). Operation in incline planes.
COMPENSATION	Retracing. Tool geometry. Tool live monitoring (opt.).	Retracing. Tool radius. Tool live monitoring (opt.). RTCP Compensation (includes 5 axes) (opt.).
FEEDRATE DISPLAY	In mm/min. or inches/min. In mm/rev. or in inches/rev. F as inverted function of time.	In mm/min. or inches/min. F as inverted function of time.
GRAPHICS	Solid graphics with zoom-in and zoom-out. Tool paths.	Tool paths. 3 simultaneous views (with simulated depth). Optional: Solid grapfics, with zoom-in and zoom-out.
CANNED CYCLES	Turning (straight and in arc). Facing (straight and in arc). Drilling. Grooving along X and Z. Threading (longitudinal, on the face). Pattern repeat. Roughing along X and Z. Variable pitch threads. Thread repair.	Drilling (in straight line, rectangle, grid, circle, arc). Reaming. Boring. Pockets (rectangular, circular; Optional:). Bosses (rectangular, circular). Rigid tapping (opt.). Probing cycles (opt.).
PROGRAMMING	ISO. Conversational customizable. Optional: Profile Editor.	ISO. Conversational customizable. Optional: Profile Editor.

OPERATION

DATA ENTRY	Manual data entry through customizable keyboard. Help keys (softkeys).
MANUAL AND AUTOMATIC OPERATION	Jog with up to 4 electronic handwheels. JOG panel with keys for continuous or incremental jog. Feedrate override switch with a range between 0% and 200%. Spindle speed override between 0% and 255%. Home search (Io).
SIMULATION/ EXECUTION	Single block / Continuous cycle. Display of the position and following error (Axis lag). Display of programs, subroutines and G functions. Information on parameter values, execution times and parts counter. Graphic representation of the operation (tool path, 3 views, solid graphics, ...). Simulation modes: Theoretical tool path; in the plane; G, S, M, T functions.
PROGRAMMING	Editing in CNC language (ISO), High-Level, Profile Editor and Interactive Editor. Editing in teach-in mode. Machining canned cycles in all planes. Scaling factor / Mirror image and pattern rotation. Standard, parametric and modal subroutines repeatable up to 9999 times. User defined-cycles.
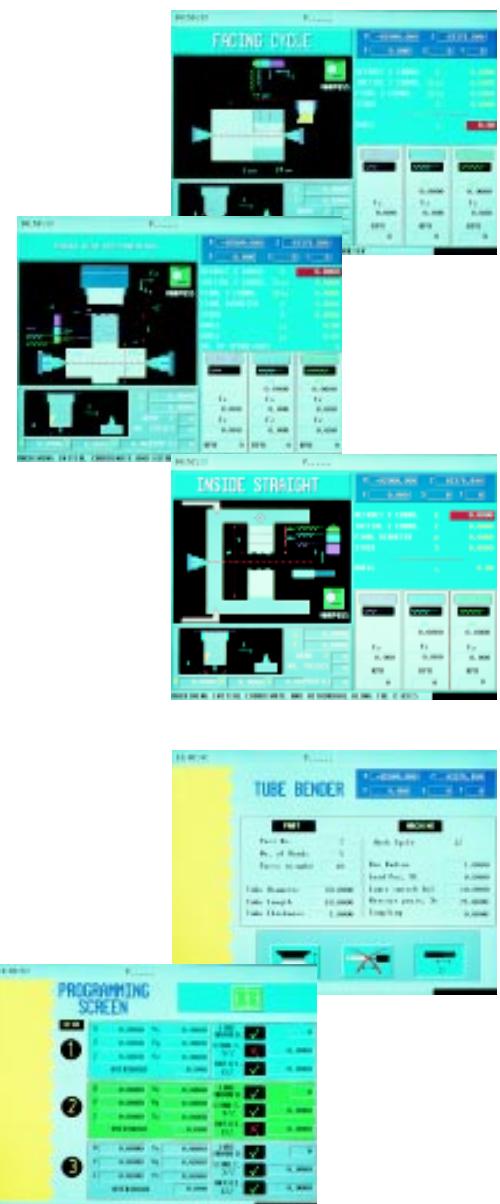
CUSTOMIZABLE SCREEN TCO/MCO

FAGOR AUTOMATION provides the necessary tools for customizing the screen:

- WGDRAW: to design the cycle editing screens with graphic assistance and data entry windows.
- WINDNC: simplifies the transmission of CNC screen configuration files to the CNC.

Simple high level language to define the configuration files that set the characteristics of each screen: Associated Hot Key, data to be captured in teach-in, number of the arithmetic parameter associated with each window, direct access to the profile editor, etc.
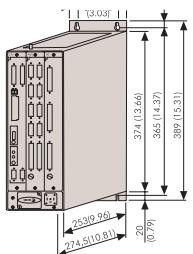
Overlaying of windows activated from the PLC:
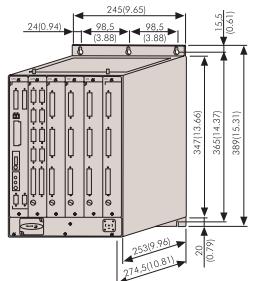
- Symbols for troubleshooting.
- Display CNC variables or arithmetic parameters.
- Bar type variables: consumption, levels, etc.

Dimensions in mm. (inches)
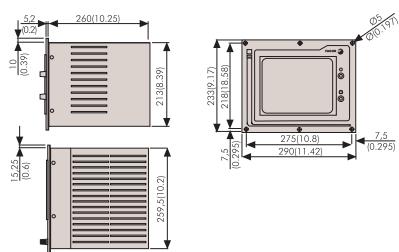
3-wide 8055 Central Unit
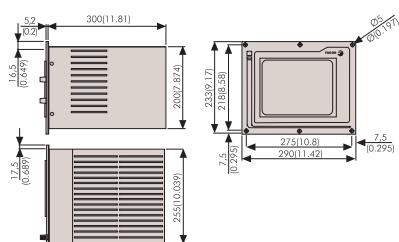
6-wide 8055 Central Unit
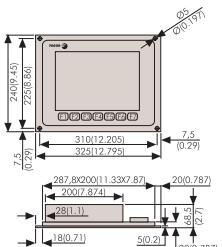
9" 8055 Ambar Monitor
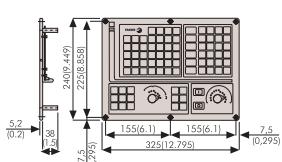
10" 8055 Color Monitor

11" 8055 LCD Monitor

8055 Operator Panel

FAGOR AUTOMATION shall not be held responsible for any printing or transcribing errors in the catalog and reserves the right to make any changes to the characteristics of its products without prior notice.

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FAGOR

Worldwide reliability.