

### **5 CNC Unit**

The CNC control system used in the machine is FS0i-MF+ series and is mounted on the main operator panel. The following components and printed circuit boards are associated with the CNC system.

#### **5.1 DI/DO Boards**

The digital inputs and digital outputs for the machine control are performed through these boards. The number of digital inputs and outputs depend on the machine configuration and options available.

These I/O modules are mounted on the main chassis inside the MTC and operator panel and handles all the I/O's from the machine.

#### **5.2 Main CPU Boards**

The “brain” of the control system is the main CPU board. It has multiple modules on the printed circuit board, which perform various functions including:

- CNC operation command control
- CNC program data and machine parameter storing
- RS-232 serial communication
- Manual Pulse Generator (MPG) control
- LCD display control (non-graphic)
- Execution of Programmable Machine Controller (PMC) program
- Servo control for axis 1 to 4
- Spindle control with serial interface
- The program data and machine parameter were stored in the main CPU board's static RAM area, which requires battery back up, under power off condition.

#### **5.3 LCD Display Unit**

A 10.4 inch LCD screen unit is used for Professional *u* controls as a standard feature.

#### **5.4 Manual Data Input**

The MDI unit is a half key type keypad for data entry and screen selection.

#### **5.5 Function Keys & Rotary Switches**

The function keys and rotary switches are used to control the machine operation consisting of push buttons with illumination, keyed switches and rotary switches.