FRYER
MACHINE SYSTEMS®

The Toolroom Company

Fryer – Siemens Touch 2200

CNC Control

The Fryer – Siemens Touch 2200 CNC provides world class technology and ultra-advanced features in an intuitive user interface. Based on the powerful Siemens 840D SL, this state of the art platform provides the ultimate for 5 axis, high speed machining, horizontal machine and turning applications alike. Fast set-up cycles, one button hot keys and built in probe cycles speed the set-up process. Shop floor programming, G code programming, large program storage and Ethernet connectivity speed the programming process. 3D solid model graphic verification, handwheel run and easy interrupt speed the first article process.

High Speed Machining

- Special cycles to provide smooth contours
- Fast block processing & advanced look ahead
- High speed quad CPU's
- Ethernet and large memory management

XP-32

HR-70

Shop Floor Programming

- Fast set-up cycles and hot keys
- Built in probing cycles
- Conversational programming
- Advanced graphics and test cycles

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5 Axis Machining

- World leading 5 axis technology
- Tool center point compensation
- Automatic calibration cycles
- Advanced kinematic configuration

5X-120

Advanced Turning

- Multiple turning configurations
- Mill-turn programming cycles
- Advanced graphic display
- In process probing cycles

VT-60

Specialty Machining

- Custom configurations
- Up to 32 axis capable
- Combine multiple types of machining
- Mill, turn, grind, weld, plasma, water jet

TC-240V

1. Touch Screen
15" touch screen features a high-resolution, digital color monitor.

2. Mode Select Keys
Provides easy navigation for set up, programming and operation.

3. USB Port
High-speed USB port for file transfer via standard flash drive.

4. Set-up Hot Keys
These buttons simplify set-up and operation of the machine.

5. Soft Keys
Each screen has individualized touch-activated function keys.

6. Alphanumeric Keypad
Allows full text entry of part names, tool names, program names, etc. Fast data entry of dimensional information.

7. Directional Keypad
Allows simple navigation between fields, and features a Select-key for multi-option fields.

8. Function Keys
Feed rate override, spindle speed override, jog direction keys and keys for miscellaneous functions.

TOUCH 2200 FEATURES AND TECHNICAL DATA

PROGRAMMING MODES

Graphical Conversational Programming:
- Simple fill-in-the-blank menus
- No G-Code knowledge needed
- Graphical help screens ease learning curve
- Simple adding, deleting or modifying of work steps
- Simultaneous verify draws each step as you program
- Multi-lingual menus standard

G-Code Programming:
- Large standard memory for lengthy programs
- Includes search, replace, cut, copy & paste functions
- Translator for Fanuc G-Code
- Merge both conversational & G-Code in the same program

Contour Programming:
- Automatic calculation of partially defined geometry
- Powerful contour calculator for creating contours on the peripheral surface of cylindrical work pieces
- True-to-scale representation of contours with up to 255 contour elements
- Import DXF files via an optional CAD reader

MACHINING CYCLES

Milling:
- Machining of contour pockets with up to 12 islands
- Machining of contour bosses with up to 12 islands
- Automatic detection and follow-up machining of residual material
- Face milling cycle with safe zones
- Rectangular & circular pockets with different insertion methods
- Rectangular & circular bosses
- Linear & circular grooves
- Thread milling and engraving cycle

Turning:
- Single point OD and ID threading
- Pipe and API OD and ID threading
- One button thread repair
- Multiple grooving cycles
- Basic stock removal cycles
- Plunge and face turning
- Live tooling and C axis

Drilling:
- Centering, reaming, boring
- Boring with chip break or pecking function
- Rigid tapping with chip break or pecking function

High-Speed Machining:
- Mold making cycle for the selection of the machining type & contour tolerance

Position Pattern:
- Position patterns such as a line, circle or grid
- Deselection of individual position in position patterns

Cylindrical Surface Machining:
- Drilling & milling operations on cylindrical surfaces
- Features conversational milling & drilling cycles on a live tool lathe

Swivel:
- Drilling & milling synchronized on swivel head machines
- Flexible input of swivel angel makes changing from vertical to horizontal or any angle in-between easy

GRAPHIC VERIFY
- 3D solid model view
- Wire frame graphics view
- Special 3-side view with 3D elevation
- Verify both conversational & G-Code programs
- Run verify draws the part while machining in real time

TOOL MANAGEMENT
- Tool table graphically shows tool type & geometry
- Workpiece count & tool-life monitoring with sister tools
- Tool radius compensations with approach & retract strategies
- 3D tool radius compensation
- Look-ahead detection of contour violations
- Tool management with extensive functionality such as empty location search & place positioning, tool loading/unloading, tool life & workpiece count
- Connection to RFID tool identification system - MOBY E

SET-UP FUNCTIONS
- Graphic menu for setting tool lengths & diameters, milling & turning
- Simple menu for automatic tool setting with optional tool probe
- Menu driven part probe cycles

AUTOMATIC FUNCTIONS
- Block search to an interrupted point in a program
- Block search to a specific point in a drilling pattern with all modal data automatically activated

HIGH-SPEED MACHINING
- Velocity feed-forward reduces following error to near zero
- Jerk limitation for creating smooth ACC/DEC profiles
- Spline interpolation featuring on-line compressor
- Polynomial formatted programs can run directly without conversion to G-Code

5 AXIS MACHINING
- Inverse time function
- Spline interpolation for 5 axis
- Tool center point compensation and programming using vector or RPY angles
- 3D tool nose radius compensation

HARDWARE SPECIFICATIONS
- Siemens 840D SL platform
- 15" color touch screen monitor
- High-speed CPU control up to 31 axes
- Profibus I/O expandable to 4,096 digital inputs/outputs
- Sinamics S120 modular digital drive system
- Absolute encoders – no homing required
- Regenerative drive system saves 40% electrical consumption
- High-speed Ethernet port -- wired or wireless
- Linux or Windows based platforms