## CM SERIES OPTIONS

<table>
<thead>
<tr>
<th>Option Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT-0320</td>
<td>RIGID TAPPING</td>
</tr>
<tr>
<td>OPT-2109</td>
<td>FLOOD COOLANT SYSTEM</td>
</tr>
<tr>
<td>OPT-2112</td>
<td>SPRAY MIST COOLANT SYSTEM</td>
</tr>
<tr>
<td>OPT-2114</td>
<td>AIR BLAST SYSTEM  Programmable air nozzle for plastic, graphite and other dry materials</td>
</tr>
<tr>
<td>OPT-9233</td>
<td>ELECTRICAL CABINET AIR CONDITIONER  Replaces standard fan vented cabinet with a sealed cabinet. Air conditioning unit keeps inside temperature at the desired set temperature regardless of what the outside temperature is. Recommended for area where ambient temperature exceeds 100 degrees Fahrenheit.</td>
</tr>
<tr>
<td>OPT-2121</td>
<td>ABRASIVE MATERIAL PROTECTION PACKAGE  This package includes one piece sealed way covers that protect the ways from abrasive contaminates. Also includes sealed electrical cabinet with an high efficiency heat exchanger. Available for all models. Contact factory.</td>
</tr>
<tr>
<td>OPT-2171</td>
<td>UPGRADE TO 20 STATION ARM TYPE AUTOMATIC TOOL CHANGER  Column mounted, twin arm, 20 + 1 Station tool changer holds up to 3.55” (adjacent) and 6.00” (empty pocket) diameter tools, 11” long, 17.50 lbs. Tool change time 3 seconds. (CM-20 Only)</td>
</tr>
<tr>
<td>OPT-2172</td>
<td>UPGRADE TO 1,200 IPM RAPID FEEDRATE - requires 480VAC power</td>
</tr>
</tbody>
</table>

### SPINDLE OPTIONS

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<tbody>
<tr>
<td>OPT-2173</td>
<td>HIGH TORQUE 15 HP SPINDLE MOTOR UPGRADE  Powerful 15 HP spindle motor develops 80 ft/lbs. of torque at only 350 RPM. Requires 480 VAC power.</td>
</tr>
<tr>
<td>OPT-2200</td>
<td>10,000 RPM 40 TAPER SPINDLE  (Includes refrigeration unit and air purge seal)</td>
</tr>
<tr>
<td>OPT-2202</td>
<td>12,000 RPM 40 TAPER SPINDLE  (Includes refrigeration unit and air purge seal)</td>
</tr>
<tr>
<td>OPT-2204</td>
<td>15,000 RPM 40 TAPER IN-LINE SPINDLE  (Includes refrigeration unit and air purge seal)</td>
</tr>
<tr>
<td>OPT-2205</td>
<td>21,000 RPM 30 TAPER ELECTRIC SPINDLE  (Includes refrigeration unit, air purge seal, conversion of ATC to 30 taper)</td>
</tr>
<tr>
<td>OPT-2206</td>
<td>30,000 RPM 30 TAPER ELECTRIC SPINDLE  (Includes refrigeration unit, air purge seal, oil/air lube system, conversion of ATC to 30 taper)</td>
</tr>
<tr>
<td>OPT-9209</td>
<td>BT-40 SPINDLE  (For Japanese style BT-40 tooling)</td>
</tr>
<tr>
<td>OPT-2213</td>
<td>350 PSI COOLANT THRU SPINDLE SYSTEM  High pressure, adjustable 100- 350 PSI thru spindle coolant system. Includes high volume 8 gallon / minute pump and 10 micron replaceable filter. Features full pressure even with tool coolant holes up to .200” diameter.</td>
</tr>
</tbody>
</table>

### ROTARY TABLE CONTROLLERS

<table>
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<tr>
<td>OPT-4306</td>
<td>4TH AXIS DRIVE AND WIRING for 6” to 8” Rotary Tables  Add this option to any Fryer machine in order to control the 4th axis rotary tables as a full contouring 4th axis. Includes drive, wiring and 4th axis software.</td>
</tr>
<tr>
<td>OPT-4349</td>
<td>5TH AXIS DRIVE AND WIRING for Trunnion Table  Add this option to any Fryer machine in order to control the two axis rotary tables as a full contouring 4th and 5th axis. Includes drives, wiring and special 5 axis software. (requires 4th axis Drive and Wiring)</td>
</tr>
</tbody>
</table>

### 4th AXIS ROTARY TABLES

*Fryer made rotary tables feature exceptional quality and accuracy. Dual worm gear drive, high torque disc brake, AC brushless motor, coolant tight motor housing, quick disconnect cable set, table clamp set and ground locating keys. (Requires 4th axis drive wiring)*
**5th AXIS TRUNNION ROTARY TABLES**

Fryer made 5th axis rotary tables are perfect for multisided machining as well as full 5 axis contouring. Ultra precise ring and worm gear set ensure dead-on accuracy. All tables feature trunnion style full support for heavy duty cutting, hydraulic disc brake, table clamp set, quick disconnect cable set and ground locating keys.

Requires 4th & 5th axis rotary table controllers above and Touch 2300 Control upgrade.

- **OPT-8503** TRT-100 6” 5TH AXIS TRUNNION ROTARY TABLE
- **OPT8504** 5” 5th AXIS HIGH SPEED TRUNNION ROTARY TABLE - Torque motor rotary table spins at 200 RPM for fast machining of small parts

**CONTROL OPTIONS - FRYER / SIEMENS 828-HS**

- **OPT-0602** REMOTE ELECTRONIC HANDBWHEEL Handy jog handwheel is located in a portable box. Features axis selector switch and a resolution selector for coarse or fine movement. Remote stop start is also included.

- **OPT-2146** HANDWHEEL RUN FUNCTION This feature allows you to control your program execution with the electronic handwheel. Turning the handwheel causes the program to run, with you controlling the feedrate. You can move forwards and even backwards with this handy feature. Designed to make proving-out programs easier with safety and confidence.

- **OPT-2147** DXF FILE IMPORT FEATURE Allows you to import DXF files and quickly convert to a conversational program. Automatically create points for drilling operations or contours for milling.

- **OPT-4133** IN-PROCESS PART PROBE MEASUREMENT CYCLES This feature allows you to measure part features during program execution. Can also be used in MDI mode after cutting the part to then measure certain features and display the measurement.

- **OPT-9104** HIGH SPEED NETWORK INTERFACE High speed Ethernet port is the ideal way to connect your machine to your LAN (local area network). Features 10/100 MB/s bandwidth for fast uploads and downloads of part programs. Also features a drip feed option that allows you to run part programs larger than the memory of the machine.

- **OPT-2140** REMOTE MONITORING Allows monitoring of the CNC from any remote location where internet access is available. Check cycle times, spindle load, feedrate override position, program being run and more. (Requires network interface option)

- **OPT-2100** SIEMENS OFFLINE PROGRAMMING SOFTWARE Easy-to-use software package that installs on a standard desktop PC and duplicates the control functions. Allows full programming and part program verification. Single package for lathe and mill. Windows 7-10 compatible.

- **OPT-2151** EXPANDED MEMORY 100 MB Standard memory of 6 MB is increased to 100 MB for handling larger CAM programs.

- **OPT-2142** 3D HIGH SPEED MACHINING Features high speed 1.5ms block processing and 500 block look-ahead. Advance Surface features jerk control and nano smoothing with a compressor mode which determines optimal velocity for programs containing circular and linear blocks. High speed roughing parameters and lower speed finishing parameters provide incredible surface finish at lowest possible cutting time.

- **OPT-2163** RESIDUAL MATERIAL DETECTION This software option allows re-machining of pocket milling contours with a tool smaller than the original tool. The control will remember where material has already been machined and will cut only the residual material.

- **OPT-2156** EXTENDED OPERATOR FUNCTIONS Includes additional part probing cycles, teach function, the ability to save tool data and tool offset data, save MDI programs and other features

- **OPT-2154** 4TH AXIS SURFACE CYCLES Allows programming of XYZ coordinates and cycles like pockets and engraving. These are then automatically projected onto a cylindrical surface. For use with 4th axis rotary tables.
**CONTROL OPTIONS - FANUC**

**OPT-0202**  
**FANUC 0i MF**  
(220 VAC)

**OPT-0214**  
**HIGH SPEED ETHERNET NETWORK PORT**  
(100 MB/SEC)

**STD**

**OPT-0212**  
**REMOTE ELECTRONIC HANDWHEEL WITH AXIS AND RESOLUTION SELECT**

**OPT-0213**  
**HIGH SPEED MACHINING PACKAGE for 0i (Fanuc AICC nano)**  
This package is designed for die mold applications where the ultimate in performance is desired. Features 2 millisecond block processing speed with 200 block look ahead. Bell shaped ACC/DEC interpolation. Nano smoothing and jerk control included.

**OPT-0222**  
**WORK OFFSETS – 48 PAIR STANDARD**

**OPT-9211**  
**430 - 500 VAC 3 PHASE POWER**

**FANUC SPECIAL OPTIONS - Fryer offers all Fanuc available options. Many of these options offer special features and performance and should be discussed with the factory.**

**PROBES**

**OPT-4230**  
**FRYER AUTOMATIC TOOL AND PART PROBE PACKAGE**  
This package includes table mounted tool probe to auto set the tool length offset and a wired part probe to auto set pocket centers, bosses, and find edges. The simple graphical interface included gives the operator the fastest set-up possible.

**OPT-9222**  
**MARPOSS WIRELESS TOOL AND PART PROBE PACKAGE**  
Package includes a wireless (IR) table mounted tool probe that automatically measures and sets your tool length and diameter offsets. Also included is an easy to use wireless part probe that works with the ATC and allows you to quickly find edges, hole centers, bosses and many more shapes. Simple graphical menus make operations fast and can also be used to measure part geometry.

**OPT-2128**  
**RENNISHAW WIRELESS TOOL AND PART PROBE PACKAGE**  
Package includes a wireless (IR) table mounted tool probe that automatically measures and sets your tool length and diameter offsets. Also included is an easy to use wireless (IR) part probe that works with the ATC and allows you to quickly find edges, hole centers, bosses and many more shapes. Simple graphical menus make operations fast and can also be used to measure part geometry.

**TOOLING & WORKHOLDING**

**OPT-4214**  
**SANDVIK #40 V-FLANGE TOOLING PACKAGE**  
Standard tooling package includes: (6) collet chucks with the following collet sizes; (1) 1/4”; (2) 3/8”; (2) 1/2”; (1) 5/8”; (1) 3/4”; (1) 1”. Solid end mill holders as follows: (2) 3/8”; (2) 1/2”; (1) 5/8”; (1) 3/4”; (1) 1”, (1) 1/2” keyless drill chuck with holder, collet chuck wrench & set-up fixture, (14) retention knobs.

**OPT-9097**  
**PACKAGE OF 12 CAT-40 OR BT-40 RETENTION KNOBS**  
(specify at time of order)

**FACTORY SERVICES**

**OPT-9000**  
**FACTORY SET-UP & TRAINING AT YOUR FACILITY**  
3 Days Contiguous US; includes travel expenses. Training for Siemens Control only.

**OPT-9996**  
**TRAINING ONLY -- 1 DAY**  
(Expenses and travel time additional)
OPT-3308  CHANGE TO 380-500 VAC 3 PHASE POWER

OPT-2007  CHANGE TO 205-250 VAC SINGLE PHASE  Uses digital phase converter.