



Precision Built Solutions™

MB-R SERIES OPTIONS

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| OPT-1112 | STEEL WAY COVERS |
| OPT-0320 | RIGID TAPPING |
| OPT-2109 | FLOOD COOLANT SYSTEM - MB |
| OPT-2112 | SPRAY MIST COOLANT SYSTEM |
| OPT-2114 | AIR BLAST SYSTEM Programmable air nozzle for plastic, graphite and other dry materials. |

CHIP GUARDING

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| OPT-1110 | TABLE MOUNTED SPLASH GUARD WITH DOORS AND SAFETY SWITCH (MB-10/14) |
| OPT-1128 | TABLE MOUNTED SPLASH GUARD WITH DOORS AND SAFETY SWITCH (MB-16) |
| OPT-1111 | FULL MACHINE GUARD (MB-10/14) Full machine enclosure allows high coolant flow and heavy chip removal with no floor mess. Includes door safety switch. |
| OPT-1113 | FULL MACHINE GUARD (MB-16) Full machine enclosure allows high coolant flow and heavy chip removal with no floor mess. Includes door safety switch. |

40 TAPER SPINDLE OPTIONS

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| OPT-9209 | BT-40 SPINDLE For Japanese style BT-40 tooling. |
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AUTOMATIC TOOL CHANGERS - 40 TAPER

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| OPT-8013 | 12 STATION CAROUSEL TYPE AUTOMATIC TOOL CHANGER Geneva drive, carousel type tool changer holds up to 3.20" diameter tools, 11" long. Tool change time 7 seconds. |
| OPT-4102 | 20 STATION CAROUSEL TYPE AUTOMATIC TOOL CHANGER Geneva drive, carousel type tool changer holds up to 3.20" diameter tools, 11" long. Tool change time 7 seconds. |

RISER BLOCKS

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| OPT-4122 | 4" COLUMN RISER BLOCK |
| OPT-4124 | 8" COLUMN RISER BLOCK |

ROTARY TABLE CONTROLLERS

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| OPT-4306 | 4TH AXIS DRIVE AND WIRING for 6" to 10" 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. |
| OPT-4305 | 4TH AXIS DRIVE AND WIRING for 12" to 32" 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. |

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.*

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| OPT-1002 | RT-170 6" 4 TH AXIS ROTARY TABLE |
| OPT-1003 | 6" TAILSTOCK |

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| OPT-1004 | 6" ROTARY TABLE CHUCK |
| OPT-4310 | RT-200 8" 4 TH AXIS ROTARY TABLE |
| OPT-4311 | 8" TAILSTOCK |
| OPT-4360 | 8" HEAVY DUTY TAILSTOCK Tailstock includes a cast iron body, keyed table and features a faceplate to hold a 3-jaw chuck or a center. Includes high torque pneumatic disc brake. |
| OPT-4351 | 8" ROTARY TABLE CHUCK |
| OPT-4312 | RT-250 10" 4 TH AXIS ROTARY TABLE |
| OPT-4313 | 10" TAILSTOCK |
| OPT-4361 | 10" HEAVY DUTY TAILSTOCK Tailstock includes a cast iron body, keyed table and features a faceplate to hold a 3-jaw chuck or a center. Includes high torque pneumatic disc brake. |
| OPT-4353 | 10" ROTARY TABLE CHUCK |
| OPT-4314 | RT-320 12" 4 TH AXIS ROTARY TABLE |
| OPT-4315 | 12" TAILSTOCK |
| OPT-4362 | 12" HEAVY DUTY TAILSTOCK Tailstock includes a cast iron body, keyed table and features a faceplate to hold a 3-jaw chuck or a center. Includes high torque pneumatic disc brake. |
| OPT-4355 | 12" ROTARY TABLE CHUCK |
| POR | 5TH AXIS TRUNNION ROTARY TABLE Available in a different sizes and capacities. Contact factory for more info. |

GLASS SCALES

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| OPT-1102 | HEIDENHAIN GLASS SCALE FEEDBACK 0.000050" RESOLUTION - X & Y AXIS (<i>MODELS UP TO 40" X TRAVEL</i>) This is a super accurate system using dual feedback. The standard encoders provide a stable servo loop while the ultra-precision scales provide final position accuracy. |
| OPT-2122 | HEIDENHAIN GLASS SCALE FEEDBACK 0.000050" RESOLUTION - X & Y AXIS (<i>MODELS UP TO 60" X TRAVEL</i>) |
| OPT-2124 | HEIDENHAIN GLASS SCALE FEEDBACK 0.000050" RESOLUTION – Z AXIS (<i>MODELS WITH UP TO 30" Z TRAVEL</i>) |

CONTROL OPTIONS - FRYER / SIEMENS 828-HS

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| OPT-2322 | 3 HANDWHEEL OPERATOR CONSOLE Base mounted operator console has 3 handwheels for full manual operation. This unique package makes set-up easier by allowing you to manually run the machine using three electronic handwheels. The handwheels are mounted in a comfortable position and include a joystick and a coarse/fine speed control switch. The package also includes chamfer mode and electronic stops that allow you to move to a position but not exceed it. |
| OPT-0602 | REMOTE ELECTRONIC HANDWHEEL Handy jog handwheel is located in a portable box with coiled cord. 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. |

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| 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 7-11 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. |
| OPT-2144 | FRYER - SIEMENS SINUMERIK ONE CNC CONTROL UPGRADE This control features a 19" touch screen display, 5 axis simultaneously expandable and advanced operator functions. Includes Handwheel Run and Run Verify features as well as Probe Cycles. Software options for this control are slightly different than the 828-HS control, contact the factory for additional information on these options. |
| OPT-9200 | SPARE "M" FUNCTION Use to connect remote devices like indexers, shuttles, clamps, etc. |
| OPT-9203 | SPARE "M" FUNCTION -- PACKAGE OF 10 |

CONTROL OPTIONS - FANUC 0i MF PLUS

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| OPT-0217 | FANUC 0i MF PLUS CNC UPGRADE |
| STD | USB PORT FOR MEMORY STICK DEVICES |
| OPT-0218 | 2 MB PROGRAM STORAGE MEMORY |
| OPT-0222 | WORK OFFSETS – 48 PAIR STANDARD |
| OPT-0217 | 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-0212 | REMOTE ELECTRONIC HANDWHEEL Handy jog handwheel is located in a portable box with coiled cord. Features axis selector switch and a resolution selector for coarse or fine movement. Remote stop start is also included. |
| OPT-0213 | MANUAL GUIDE I CONVERSATIONAL PROGRAMMING - Powerful Manual Guide i guides you though complex programming at the machine without having to remember G codes. Includes 3D solid model verification feature. |
| OPT-0215 | FAST DATA SERVER - 2 GB part storage, unlimited file size using drip feed buffer, FTP server capable. |
| OPT-0214 | 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-0219 | 3D HIGH SPEED MACHINING Features 200 block look ahead, AICC2, smooth tolerance, jerk control, and fine surface machining. |
| OPT-0221 | TEACH MODE Allows you to record manual positions using the handwheels to create a program |

PROBES

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| 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. |
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OPT-2128 **RENISHAW 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.

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.

OPT-8002 **6" HIGH PRECISION VISE - REINHARDT BRAND - MADE IN USA**

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.

ELECTRICAL

OPT-1402 **CHANGE TO 380-500 VAC 3 PHASE POWER**

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