



Precision Built Solutions™

## 5X SERIES OPTIONS

- OPT-2165 10 MICRON COOLANT FILTRATION SYSTEM 10 micron coolant filtration system features up to 10 GPM flow rate with a replaceable element.
- OPT-2118 OIL SKIMMER (automatically removes tramp oil from your coolant system)
- OPT-2112 SPRAY MIST COOLANT SYSTEM
- OPT-2169 MIST COLLECTION SYSTEM
- OPT-2114 AIR BLAST SYSTEM Programmable air nozzle for plastic, graphite and other dry materials
- OPT-9220 AUTOMATIC DOOR ( Electric operated automatic door opener.)
- OPT-9233 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.
- OPT-2132 AUTOMATIC PALLET SHUTTLE SYSTEM
- OPT-2120 GRAPHITE MACHINING PACKAGE This package includes one piece sealed way covers and a sealed electrical cabinet with an high efficiency heat exchanger. Available for all models. Contact factory.

## CHIP REMOVAL

- OPT-2102 CHIP AUGER SYSTEM UP TO 60" X TRAVEL
- OPT-4148 DUAL CHIP AUGER SYSTEM 100" - 160" X TRAVEL
- OPT-8039 CHIP CONVEYOR SYSTEM UP TO 60" TRAVEL
- OPT-4150 DUAL CHIP CONVEYOR SYSTEM 100" - 160" X TRAVEL
- OPT-2104 HIGH PRESSURE WASHDOWN SYSTEM & WASHDOWN HOSE (flushes chips into auger or conveyor system)

## COOLANT AND ATC OPTIONS

- OPT-2213 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.
- OPT-2212 1,000 PSI COOLANT THRU SPINDLE SYSTEM High pressure, adjustable 300-1,000 PSI thru spindle coolant system. Includes high volume 8 gallon / minute pump. This allows full pressure even with tool coolant holes up to .100" diameter. System includes 10-micron replaceable filter cartridge.

OPT-4109      **UPGRADE TO 60 STATION ARM TYPE AUTOMATIC TOOL CHANGER**      Column mounted, twin arm, 60 + 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.

## **GLASS SCALES**

OPT-2122      **HEIDENHAIN GLASS SCALE FEEDBACK 0.000050" RESOLUTION - X & Y AXIS (MODELS UP TO 100" X TRAVEL)**      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-4128      **HEIDENHAIN GLASS SCALE FEEDBACK 0.000050" RESOLUTION – X & Y AXIS (MODELS WITH 120" - 160" X TRAVEL)**

OPT-2124      **HEIDENHAIN GLASS SCALE FEEDBACK 0.000050" RESOLUTION – Z AXIS (MODELS WITH UP TO 30" Z TRAVEL)**

OPT-2125      **HEIDENHAIN GLASS SCALE FEEDBACK 0.000050" RESOLUTION – Z AXIS (MODELS WITH 30" - 40" Z TRAVEL)**

## **CONTROL OPTIONS - SIEMENS 2200 (840D)**

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 spooling option that allows you to run part programs larger than the memory of the machine. Available in a wireless package for \$200.00 extra.

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-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-9200      **SPARE "M" FUNCTION** (use to connect remote devices like indexers, shuttles, clamps, etc.)

OPT-9203      **SPARE "M" FUNCTION -- PACKAGE OF 10**

OPT-2155      **MEMORY LOCK KEY**

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-4242      **5 AXIS SPECIAL FUNCTION PACKAGE** Package includes Rotary Tool Center Point Compensation (TRAORI command) and 3D tool nose compensation both of which make it easier to program minor changes to size of the part without having to repost a new program. Also included is the 3D high speed machining package described above.

## **CONTROL OPTIONS - FANUC 31i B5**

OPT-9950      **FANUC 31i B5 5 Axis CNC**

- OPT-4243 **5 AXIS SPECIAL FUNCTION PACKAGE FOR 31i** Package includes Rotary Tool Center Point Compensation which makes it easier to program minor changes to size of the part without having to repost a new program.
- OPT-0214 **HIGH SPEED ETHERNET NETWORK PORT (100 MB/SEC)**
- STD **USB PORT FOR MEMORY STICK DEVICES**
- OPT-0218 **2 MB PROGRAM STORAGE MEMORY UPGRADE (512K STANDARD)**
- OPT-0219 **HIGH SPEED MACHINING PACKAGE for 31i (Fanuc Ai Nano)** This package is designed for die mold applications where the ultimate in performance is desired. Features 1 millisecond block processing speed with 600 block look ahead. Bell shaped ACC/DEC interpolation. Nano smoothing and jerk control included
- OPT-0222 **WORK OFFSETS – 48 PAIR STANDARD**
- OPT-0226 **I ADAPT** Lowers cycle times by up to 40% by automatically optimizing the cutting feedrate based on the actual load on the spindle.
- OPT-9211 **430 - 500 VAC 3 PHASE POWER**

## **PROBES**

- OPT-9222 **MARPOSS WIRELESS TOOL AND WIRELESS 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.
- OPT-9224 **MARPOSS RF WIRELESS PART PROBE ONLY** Radio Frequency (RF) probe is ideal for 5 axis applications where line of sight IR probes do not work. The part probe works with the ATC and allows you to quickly find edges, hole centers, bosses and many more shapes. Simple graphical menus make operations fast.
- OPT-2128 **RENISHAW WIRELESS TOOL AND PART PROBE PACKAGE** Special package includes a wireless 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. System can also be used to measure part geometry.
- OPT-9225 **RENISHAW RF WIRELESS PART PROBE** Radio Frequency (RF) probe is ideal for 5 axis applications where line of sight IR probes do not work. The part probe works with the ATC and allows you to quickly find edges, hole centers, bosses and many more shapes. Simple graphical menus make operations fast.
- OPT-4132 **RENISHAW NC4 LASER TOOL PROBE** The Renishaw NC4 is the latest generation of non-contact tool setter and their most compact design. Repeatability of trigger points (2 sigma)  $\pm 1.0 \mu\text{m}$  at 1 m separation; Minimum tool diameter for measurement  $\varnothing 0.03 \text{ mm}$  (0.001 in). Maximum tool diameter is 80mm

## **FACTORY SERVICES**

- OPT-9098 **ASSEMBLY and START-UP AT YOUR FACILITY (SPECIALTY AND LARGE MACHINES - MILL)**
- OPT-9996 **TRAINING ONLY -- 1 DAY** (Expenses and travel time additional)
- OPT-8999 **RUN-OFF AT FACTORY**

***ELECTRICAL***

V440 380-500 VAC 3 PHASE STANDARD