

**Nozzle Assembly**

Material	6061-T6511 Black Anodized Aluminum
Size	5.500" x 1.375" x 2.250" (excluding angle bracket, nozzle tube, and servo connector)
Weight	1.5 lbs
Max Pressure	300 PSI Standard Unit / 2,000 PSI Available
Coolant Inlet Port	3/8" NPS
Nozzle Aperture	.04755" sq. in. flow conditioner followed by .281" ID tube (optional calibrated nozzle tips available, normally used for higher pressure)
Media compatibility	Coolant / Compressed Air / Oil / MQL (MQL systems are customized with built in atomizer and special nozzle tube)
Flow Rates	25 GPM @ 300 PSI (+/- 20%) Flow rates are approximate and will be affected by the fluid's kinematic viscosity, specific gravity, etc.
Programmable Travel	90 degrees (field configurable through opposing quadrants i.e., 90 degree travel quadrant settable on left or right side of unit)
Resolution	0.1 degree
Accuracy	Plus / minus 0.2 degrees
Repeatability	Plus / minus 0.1 degrees

**Control Unit**

Size	6061-T6511 Black Anodized Aluminum Baseplate 6.875" x 4.875" LxW - Total PCB Height on baseplate is 2.125"
Input Power	100-130 VAC / 200-230VAC 50/60 Hz (2 Ranges selectable via soldered jumper)
Current Draw	< 1 A
Power Supply	12VDC unregulated - Can be used to drive SpiderCool inputs through relay cold contacts
Auxiliary Output Port Voltage / Current	5VDC, 500 mA Max (on single nozzle RS-232 systems - can be used to activate external device such as solenoid valve)
Output Voltage / Current to Servo	5VDC, 1A Max
Interface Types (shipped with one type)	RS-232 Serial, Classic, Binary, Custom - Used to determine spindle tool number (and activate auxiliary output on RS-232 versions)

**Encoder Assembly (adjustment knob / operator interface)**

Type	Detended Optical Encoder with internal pushbutton
Mounting	Internal panel mount through 3/8" diameter hole
Size	1.700" x 1.700" x 1.700"
Operating Voltage	5VDC

**Handheld Pendant Encoder (optional)**

Description	Optional Encoder Assembly enclosed in industrial handheld pendant. Pre-wired with 25 ft. cable standard, longer lengths optional
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**RS-232 Interface**

Description	Direct serial transmission of tool# via DPRNT, PUT or other real time serial communication available from CNC control manufacturer
Baud Rates	2400, 4800, 9600, 19200, 38400
# Tools - Single Nozzle Systems	2000 unique numbers directly addressable from 0000-1999, or 20 programs each with 100 tool numbers from 00-99
# Tools - Dual Nozzle Systems	100 (00-99)
Input Commands - Single Nozzle Systems	T, U, V, A, B, M (availability depends on software version and/or single or dual nozzle systems)
Input Commands - Dual Nozzle Systems	T
Delimiter (selectable by parameter)	SPIDERCOOL followed by input command letter distinguishes data intended for SpiderCool

**Classic Interface**

Description	Deduces Tool# based on inputs from ATC sensors
Tool changer styles supported	Carousel, Double Arm Random, Preload, Special Preload - All with single magazine or carousel. (Preload styles single nozzle systems only)
Inputs - single nozzle systems only	4 inputs - Index, Direction, Arm, Preload
Inputs - dual nozzle systems only	3 inputs - Index, Direction, Arm
Power Good Input - single and dual systems	5-24VDC (Used if unintended inputs occur during power transitions)
Input Voltage	5-24VDC (Optically isolated)
Input Current Draw	1.7mA @ 5 VDC, 10.3 mA @ 24VDC
# Tools - Single Nozzle Systems	250 (01-250)
# Tools - Dual Nozzle System	100 (01-100)

**Binary Interface**

Description	Uses high/low states of 5 inputs to generate tool#'s ranging from 00-31. Included in classic interface
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**Custom Interface**

Description	Custom interfaces can be developed upon request
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**Interface Taps, Harnesses & Connectors**

Description	Devices used for physical connection of various interface types
Universal Classic	10ft, 6 conductor 22 ga. With pre-stripped ends, variety of end fittings (ferrules, forks, splices)
Fanuc i-series RS-232 - pass through	Honda style interface connector connects to occupied internal serial port, leaving external port available for other use
Fanuc i-series RS-232 - self terminating	Honda "X-style" interface connector connects to empty internal serial port, self terminating with built in null-modem jumpers
DB-25 style - pass through	Connects to external 25-pin RS-232 ports, leaves existing port available for other use
DB-9 style - pass through	Connects to external 9-pin RS-232 ports, leaves existing port available for other use
DB-9 style - self terminating	Connects to empty internal serial port, self terminating with built in null-modem jumpers

**Plug & Play Interface Kits**

Description	Complete interface kits designed for easy installation on specific machine / control models
	Presently available for most models of Doosan, Fadal, Fanuc Robodril, Hurco, Haas, YCM Supermax, Okuma

**Cables**

Servo Cable	4 conductor 22 ga., sealed threaded connector for servo connection, removable 3-pin phoenix connector for control unit connection
Servo Cable Lengths	Standard 23ft, Optional 49ft, 98ft
Encoder Cable	6 conductor, 22ga. - 25ft standard, 40' extended (other lengths available upon request)
RS-232 Cable	2 conductor 22 ga. - 25 ft. standard (other lengths available upon request)
110 / 220VAC Cable	18 gage twisted - 110VAC is Red / White, 220VAC is Black / Black - 10 ft. standard (other lengths available upon request)