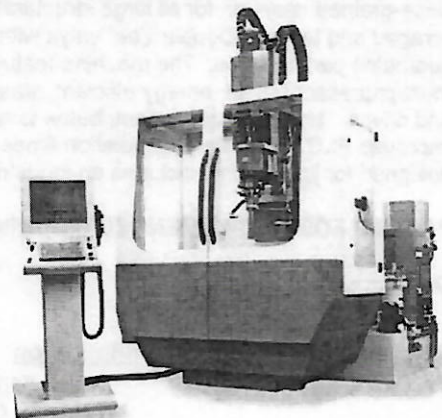




Moore Tool Company  
800 Union Avenue  
Bridgeport, CT 06607  
Tel (203) 366-3224  
Fax (203) 367-0418  
www.mooretool.com

## Moore 500-CPWZ with Fanuc 31i-A Control



Firm Fixed Price Proposal Number: JG13-113 rev. 4

April 3, 2013

**Proposal for:**

Mr. Yehuda Hadrian  
ASHOT ASHKELON INDUSTRIES LTD  
1 Ezra Yessodi St. P.O.B. 21  
Ashkelon 78100  
Israel



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Dear Mr. Hadrian,

The Moore Tool Company is pleased to offer you the following quotation for your Jig Grinding needs.

#### INTRODUCTION

The Moore model 500-CPWZ is a high-precision, CNC-controlled Jig Grinder with multiple, programmable axes (four simultaneously controlled). The machine's mechanical design utilizes a "C-Frame" single column configuration with close-grained cast-iron for all large structural components. The primary linear axes X and Y employ Moore's hand scraped and lapped "Double Vee" ways with precision lapped roller bearings providing extremely high quality geometric performance. The machine features the Fanuc Series 31i-A control system. The Series 31i-A CNC is a multi-processor based, energy efficient, state-of-the-art CNC, using digital technology throughout the control system and drives. This technology contributes to renowned reliability and dependability. This family of controls provides for improved PLC and faster interpolation times for large complex part programs. The custom user interface, specifically designed for jig grinding, includes an industrial computer with a touch screen.

#### PRICING FOR RECOMMENDED MACHINE CONFIGURATION

Qty	Part Number	Description	Price
<b>Recommended Machine Configuration</b>			
1	500CPWZ-31i	Moore 500 CPWZ 31i-A. Includes: CE Certification, International Installation & Warranty	
1	G500-720-000	Enclosure	Included
1		2 <sup>nd</sup> Year Warranty	Included
1	G500-740-400	Coolant System with Chiller System (400V) EUROPE Version	
1	G500-790-000	Mist Collector Includes: Tri-Mist Model 850, Enclosure Baffle, Hose (Smooth Liner), Flange, Transformer, Contact & Circuit Breaker.	

#### Note :

Moore Tool will provide necessary electrical schematics to interface with recommended Fire-extinguishing system ( when oil based coolant is used for grinding operation).

#### 6" (150mm) Column Height Extension to adapt Part Height based on initial Drawing Information

1	101691 & 101692	Block Riser – 6" (150mm) and enclosure kit for 500 CPWZ	
1	G500-650-100	Granite Sub-Table for 500 Series	

#### Recommended GE-FANUC 31i-A Options


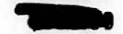
1	9458-031-C12	Polar Coordinate Interpolation	
1	9458-031-C13	Cylindrical Interpolation	
1	9458-031-C14	Inverse Time Function	
1	9458-031-C15	Hypothetical Interpolation	
1	9458-031-C16	Exponential Interpolation	

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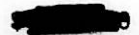
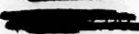







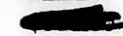
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1	9458-031-C17	Involute Interpolation	
1	9458-031-C18	Coordinate System Rotation	
		Program Storage 64K	Included
		Work Piece Coordinates 48 Pair	Included
		Handheld MPG Option	Included







#### 10,000 - 60,000 RPM Grinding Spindle

1	G500-487-310	Frequency Converter for Electric Grinding Head	
2	G500-610-000	Electric Grinding Head Package, with precision spindle taper using quick change or compatible with ATC Package, providing 0.74kW continues spindle power between 10,000-60,000 RPM.	
4	G500-610-200	Lube Unit for ATC Electric Grinding Spindle	

#### Spindle Accessories / Indicator Ring


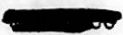

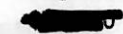

1	104148	Wrench E 16 MS	
1	104149	Tool Holder for 022/025/026/027 for vice	
1	104118-A	Indicator Ring (Moore)	

#### Measuring Accessories



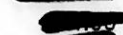



	80015	Indicator - Federal 0.0001	
	3065	Dovetail Clamp	
	3056-A	Extra Long Holder	

#### Tool Shank System with Removable Grinding Wheels


Prop Shaft Part. No. 23090394 rev. B / Carrier Part No 23091079 for diameter 2.1865"

	104414	Tool Shank Diameter 18/120mm length 8/M5	
2	104416	Screw, Grinding Body D12/8	
1	104252	Borazon Wheel Diam. 45 x 12 / 8.0 B126	
1	104253	Vitr. CBN (dress able) Wheel Diam. 45 x 12 / 8.0 B151	

Prop Shaft Part. No. 23090394 rev. B / Carrier Part No 23091079 for diameter 0.755"

2	104232	Tool Shank Diameter 14/50mm length 8/M5	
2	104140	Extension Arbors 14mm Length 22mm	
2	104139	High Precision Screws M5/M6 x 20 (Avional)	
2	104146	Screw, Grinding Body D10/8	
1	104238-126	Borazon Wheel Diam. 15.5 x 11.5 / 8.0 B126	
1	104238-151	Vitr. CBN (dress able) Wheel Diam. 15.5 x 11.5 / 8.0 B151	

Shaft and Carrier Assembly Part. No. 23091046 rev. A Finishing diameter 2.1865" & 0.755"

1	104414	Tool Shank Diameter 18/120mm length 8/M5	
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F-1756 Rev. D

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1	104416	Screw, Grinding Body D12/8	
1	104353	Vitr. CBN (dress able) Wheel Diam. 45 x 12 / 8.0 B151	\$13.00
1	104232	<b>Tool Shank Diameter 14/50mm length 8/M5</b>	\$12.00
1	104139	High Precision Screws M5/M6 x 20 (Avional)	\$12.00
1	104146	Screw, Grinding Body D10/8	\$12.00
1	104140	Extension Arbors 14mm Length 22mm	\$12.00
1	104238-151	Vitr. CBN (dress able) Wheel Diam. 15.5 x 11.5 / 8.0 B151	\$12.00

**Back Grinding Spot Face Assembly Part. No 23091046 rev. A**

2	104414	<b>Tool Shank Diameter 18/120mm length 8/M5</b>	\$12.00
2	104416	Screw, Grinding Body D12/8	\$12.00
1	104254	Borazon Wheel Diam. 48 x 22 / 8.0 B126	\$12.00
1	104255	Vitr.CBN (dress able) Wheel Diam. 48 x 22 / 8.0 B151	\$12.00

**Production Enhancement Options**

1	G500-620-000	20 Position Tool Changer for Enclosure	\$12.00
1	G500-680-310	Renishaw OMP400, using existing Renishaw measuring cycle and use load offset feature with customized macro programming capability for part machining	\$12.00
1	G500-482-310	Process Monitoring	\$12.00
1	G500-680-310	DTS-1300 Motorized Rotary Dressing Station (Metric)	\$12.00
1	102776-M	Wheel, Dressing Angle Diamond	\$12.00
1	9705-010-050	Contact Detector with Hearing device	\$12.00

**Rotary Table Interface (for future precision Rotary Table upgrade)**

1	G500-480-310	A-Axis Interface including FANUC options	\$12.00
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**Miscellaneous**

1	9458-031-C34	English Fanuc Manual	Included
1		Moore Reference Manual	Included
1		Parts Manual	Included
1		Machine Schematics Manual	Included



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#### Recommended Support and Training

1	Basic Operation / Programming Training	Five (5) days operator & programming training, for (3) three operators at Moore Tool facility after acceptance test of machine at Moore facility, Bridgeport, CT	<del>2,000.00</del>
1	Advanced Programming	Five (5) days advanced programming training recommended for (3) three operators after acceptance test of machine at Moore Tool facility after acceptance test of machine at Moore Tool facility, Bridgeport, CT. <b>Note : Moore Tool application department recommends additional training after 6-9 months delivery at Moore facility, Bridgeport, CT based on quoted machine configuration.</b>	<del>2,000.00</del>
1	Advanced Programming at Customer	Five (5) days advanced programming training for (3) three operators at customer's site including all flight & expenses	<del>\$2,000.00</del>

#### Recommended Packaging & Delivery Options

1	Export EU	500 Series Boxing / Vacuum Sealed	<del>\$1,000.00</del>
1	Export EU	FOB NY Port (Crate drop off at NY Port by Moore)	<del>\$4,000.00</del>



