UNISON CORPORATION

Model 1500 PunchMaster

CNC OD Profile/Punch Grinder

UNISON MODEL 1500 CNC PROFILE GRINDER (PunchMaster) features a polymer cast base and new software. The design of the base provides significant dampening properties to absorb vibration during grinding. The improved base increases accuracy during grinding as well as the surface finish on the parts. Polymer bases are less sensitive to temperature fluctuations due to a lower thermal expansion coefficient thus improving precision and increasing productivity.

Unison's improvements has made the Model 1500 an extremely rigid production-grinding system designed to grind both round, non-round, standard and non-standard O.D. shapes and contours without the use of master cams.

The Model 1500 is equipped with highly reliable Yaskawa AC Digital Servo Motors and Drive Amplifiers requiring no periodic maintenance or adjustment. This CNC grinder also features a direct-drive Workhead which maintains precise work piece positioning during grinding by incorporating a new 20 bit high resolution encoder and 29 Nm high torque motor resulting in superior part surface finish and better geometric accuracy.

Frictionless linear rails are installed on the machine's axes and the Model 1500's base incorporates internal ribbing to provide greater machine rigidity for heavy stock removal as well as accelerated positioning rates.

Recent design changes to the Model 1500 have made the system more ergonomic for the machine's operator. The new streamlined look integrates the control console into the enclosure so the machine requires less floor space.

The Model 1500 is capable of meeting the most demanding grinding applications and is shipped with a complete library of software for grinding standard punch shapes.

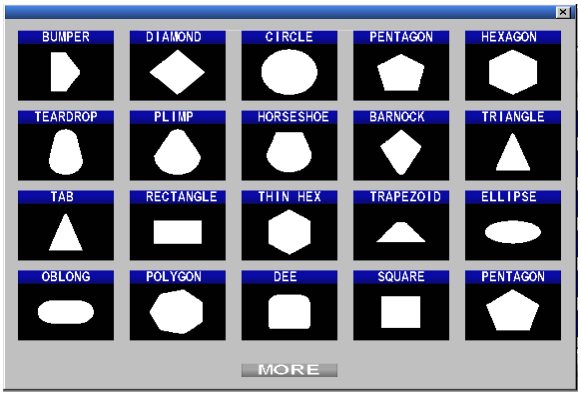
Unison's latest level of software is now more user friendly and allows for the capability of storing up to 10,000 part programs as well as an additional 10,000 wheel packs.

This new software allows you to grind up to 100 different steps in each part cycle with 100 different part shapes per grind cycle with unlimited shape definition.

Our latest Version 7 software tool grinding technology utilizes the new Windows 7™ Operating System. The combination of this software package, allows the Model 1500 to meet the most demanding grinding applications with faster cycle times. Unison's Parametric Control allows the operator to program parts by means of a simple menu both quickly and efficiently.

The machine motion control has been designed to offer set up of various shapes and sizes.

Workpiece geometry can be defined using over 40 predefined geometric families built into the control. In addition to the standard shapes available through the control, the Model 1500 is capable of input from standard CAD systems, which support the DX, format for file information exchange. Geometry information defined via CAD systems is downloaded to a thumb drive and uploaded to the control of the Model 1500. The control unit has the capability to process shape information via a data table registering every tenth of a degree, or a rise or fall taken from the part base circle.



Provided, as standard with the Model 1500 is self-diagnostics software. The control continuously monitors critical areas of the machine and alerts the operator's attention to any errors encountered during operation. Errors are tracked and logged within the machines control to easily diagnose a problem. Machine cycling is prohibited until faults have been corrected and reset.

Improvements incorporated in the Model 1500 result in remarkably faster cycle times from part-to-part and greater machine reliability.

The **Model 1500** provides the user with various in cycle dress cycles:

- **Skip Dress**
  Permits grinding any number of parts (Operator Specified)

- **Dress Before Finish Grind**
  Implemented for difficult to grind materials requiring finish dress to produce the proper finish at the end of the grind cycle

- **Multiple Dresses**
  Allows more than one dress during rough grind and is applicable primarily when using a small grinding wheel or removing large quantity of stock

- **Profile Dress**
  Allows the Operator to dress profiles into the grinding wheel. A convenient series of steps allows programming of radii and tapered surfaces using linear and circular interpolation.

- **Continuous Dress**
  Enables dressing without stop and is intended for dressing a new wheel. The rate is relative to the Operator's feedrate and amount of stock removal. Dress cycle is continuous until auto cycle is stopped on the machine Control.

MACHINE SPECIFICATIONS

Maximum Workhead (A-Axis) Speed:	500 RPM
Workhead (A-Axis) Travel:	Unlimited rotational
Workhead (A-Axis) Center Height:	5" (127mm)
Maximum Part Diameter:	4" (102mm)
Maximum Part Length:	22" (559mm)*

*Between Centers using a manual Tailstock

Y-Axis Travel:	Approximate 10" (254mm)
X-Axis Travel:	Approximate 14" (355mm)
Maximum Wheel Diameter:	18" (457mm) - Optional 20" (508mm)

Tooling Options

5C Collet
V-Block Faceplate
Precision 3-Jaw Chuck (mechanical)
Hydra-Lock Chuck (hydraulic)
Pneumatic Chucking Systems

Floor Space Requirements

Length:	100" (2540mm)
Width:	80" (2032mm)
Height:	73" (1854mm)
Weight:	6000 lbs. (2722 kg)

"Unison = Grinding Solutions"

Unison Corporation
Since 1959

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