



SOLARIS

Large Capacity OD Grinder

Solaris

APPLICATIONS

The Weldon Solaris CNC cylindrical grinder is designed to satisfy processing of large, heavy work parts. Rotary and linear axes are sealed from airborne contaminants providing unmatched longevity in carbide and ceramic grinding applications.

Available with either a straight or angular wheel head (factory set) the Solaris can grind outside diameters, shoulders, and faces in a single set-up. The CNC control can address complex form grinding (tapers, radii, etc.) via form dressed wheels or profiling. Properly equipped, a Solaris is ideally suited for high speed "Peel" grinding with CBN abrasives. Additionally, a programmable "C" axis package can be provided to accommodate non-round grinding applications.

A sub-spindle option is also available to present a second OD wheel or an internal grinding wheel for sequential grinding of various part features.



FEATURES

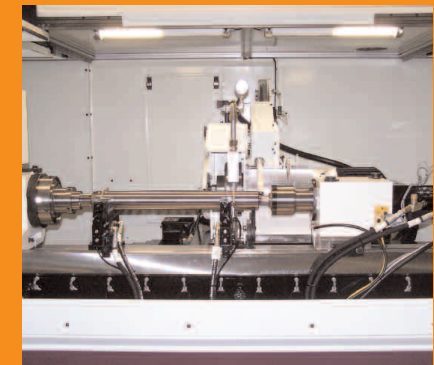
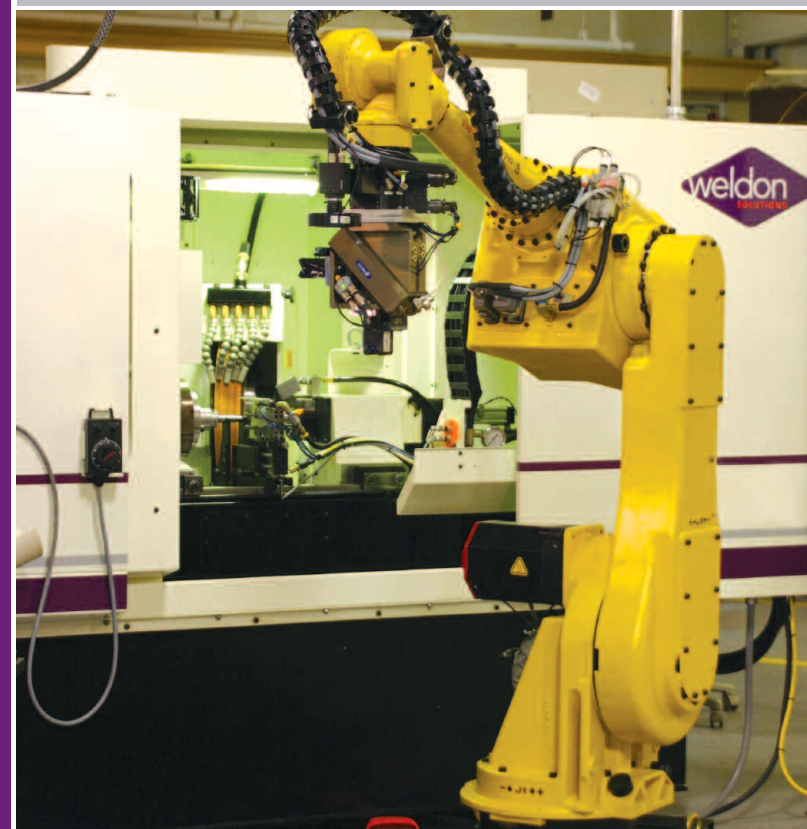
Standard:

- GE/Fanuc model 18i-TB CNC control with color LCD, and servo drives featuring GE Fanuc AC digital technology.
- Battery backup absolute feedback system eliminating the need to reference at each start-up.
- Shear Damper design machine base providing stiffness, vibration control, and thermal stability through the use of steel shear tubes covered with a viscous material and encapsulated with a special replicating resin.
- Cross-roller linear way system with recirculating bearings and precision ground rails. Includes integral way bearing seals and an external wiper system.
- Compound linear slide design to keep floor space requirements to a minimum.
- Z axis linear motor, GE Fanuc.X axis precision ballscrew assembly or GE Fanuc linear motor, determined by application.
- Heavy-duty live spindle workhead with 6" A2 spindle nose and #5 MT center. Features a 4.7" spindle diameter and a quad set of angular contact bearings.
- Automatic Trabon lubrication system, monitored by the control, with lube fault protection.
- Heavy-duty tailstock, hydraulically operated, with #5 MT center. Includes manual taper adjustments with eccentric quill design.
- Variable speed wheel drive, CNC controlled with dynamic braking. Normally arranged for constant surface speed as the grinding wheel wears.

- Stainless steel telescoping way covers.
- Full enclosure with manually operated dual sliding door assembly and both side and rear maintenance access panels.

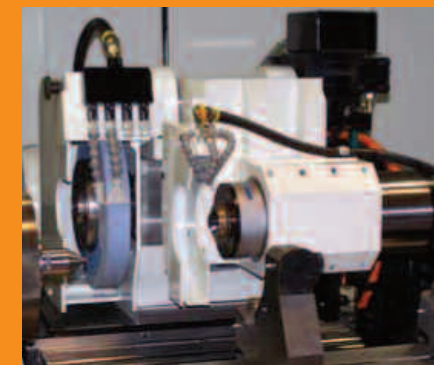
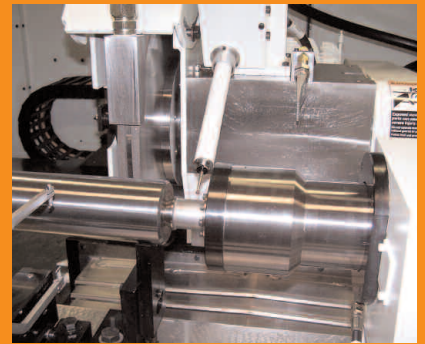
Optional:

- 22" swing capacity for faceplates and fixturing to accommodate larger workparts.
- In-process gage for automatic size control.
- Automatic lateral locator, wheelhead mounted, featuring a Renishaw probe.
- Acoustic emissions sensor for gap elimination, crash detection, and touch dressing.
- Programmable workhead with Heidenhain rotary scale, for non-round applications.
- Sub-spindle fixture (swing-down) hydraulically operated, to accommodate a variety of secondary spindles (OD or ID).
- Electric rotary dressing systems for super abrasive dressing or extended diamond life when processing with standard abrasives.
- Work holding solutions can be addressed with a variety of systems such as manual and powered jaw chucks, collet chucks, magnetic faceplates, vacuum chucks, expanding arbors, pitch-line chucks, and custom fixtures.
- Automation involving gantry systems, Fanuc 6 axis robots, or custom alternatives can be factory integrated on a turnkey basis.
- Coolant supply and filtration systems are available to suit any application; magnetic, fabric, cyclonic, pressure, and combination filtration units can be provided.



Automatic and manual workrest options available for longer work parts.

CBN wheel options available for multi-plunge and peel grind processing.



Hydraulic swing-down fixture can be provided for secondary OD or ID grinding applications.

For more information, visit our website at www.weldonsolutions.com.



Shear Damper machine base

QUALITY. Over and over again.

SOLARIS SPECIFICATIONS

CAPACITY

Maximum work swing	16"
Maximum distance between centers	60"
Worktable travel	74"

WORKHEAD

Heavy-duty, preloaded precision antifriction bearings	
Spindle nose (ASME standard)	6" A2
Center taper	#5 Morse
Through-hole diameter in spindle for draw bars and knock-out	1.0625"
Spindle speed range is infinitely variable and programmed by percentage with manual speed override located on operator control station	0 - 900 RPM
Maximum runout	0.000050"
Motor, GE Fanuc AC servo drive	5.0 HP

WHEELHEAD

Angular contact ball bearings which allow lateral loading while contouring with wheel edge	
Motor	25 hp, T.E.F.C.
Wheel speed variable RPM	8,500 SFPM (nominal)
Maximum OD wheel diameter	24"
Maximum wheel width	5.0"

TAILSTOCK

Center taper	#5 Morse
Quill retraction (hydraulic)	3"

TABLE DRIVES

GE Fanuc AC digital servo drives	1.9 HP
Command resolution, least programmable increment	0.000010"
Position feedback resolution	0.0000010"
Precision ground preloaded ballscrews on Z-axis	
Way construction	Hardened and ground cross rails
Bearings, preloaded	Cross-roller

LUBRICATION

Wheel spindle	Permanent grease-packed
Workhead spindle	Permanent grease-packed
Ballscrews and rollerscrew	Automatic lube oil

Ways..... Automatic lube oil
 Safety detect interlock to prevent cycling of operation if low air pressure or low oil level is sensed
 Automatic programmed cycle to lubricate machine when started up

ELECTRICAL SPECIFICATIONS

Complete electrical equipment wired in accordance with IEC electrical standards for metalworking machine tools
 Standard voltage 460 volts, 3-phase, 60 Hertz, AC
 (Any other voltage must be referred to factory for price and delivery.)

PNEUMATICS (air moisture: 70° F. dew point maximum)

Air pressure 80 PSI
 Air volume 5 SCFM
 Note: System requires a filtered and dry air source.

COOLANT SYSTEM

Machine is set up to pump coolant out to an optional coolant filter or tank system from a sump tank. All necessary piping and solenoids for coolant control from the machine control are provided.

MACHINE DIMENSIONS AND CONSTRUCTION

Width	151"
Depth	188"
Height	91"
Weight	28,000 lbs.
Construction	Welded steel Shear Damper™
Foundation	6" concrete floor is recommended
Multi-point anti-vibration suspension system requiring no floor attachment	

CNC CONTROL SPECIFICATIONS - GE Fanuc 18i-TB

Manual pulse generator
 Full linear and circular contouring and positioning capabilities
 GE Fanuc AC digital servo systems
 Direct rpm programming or constant surface feet per minute
 10" high-resolution color LCD
 Macro subroutines
 Automatic recognition of EIA or ISO coding
 Absolute/incremental programming
 RS 232 interface

OTHER GRINDER PRODUCTS

Phoenix
Large Capacity CNC ID



Midas
High Production OD



NEW!
UGC
Small Capacity ID



1632/1612 Gold
Ultimate Versatility OD/ID



AGN4
Small Part OD



P175
Small Part Non-Round OD



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