APPLICATIONS

The Weldon model AGN4 is a small part CNC cylindrical grinder designed specifically to produce high precision small parts either between centers or in a chucking mode. Although capable of running in a high production environment, the AGN4 also provides the flexibility to grind a wide variety of part configurations with minimal set-up.

Available with either a straight or angular wheel head (factory set) the AGN4 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.

Live spindle Workhead setting is ideal for chucking applications for diameter and end-face grinding.

Multiple diameter grinding can be accomplished with CNC step grinding, or with form dressed wheels in a single plunge cycle.

Typical applications: Small bearing shafts, valve bodies, motor shafts, hydraulic spools, form tools, guide pins, bushings and collars.

FEATURES

Standard:
- GE/Fanuc model 21i-TB CNC control, and servo drives featuring GE Fanuc AC digital technology.
- Battery backup absolute feedback system eliminating the need to reference at each start-up.
- Cast iron machine base providing stiffness, vibration control, and thermal stability.
- Pressurized Vee & Flat way system for smooth, controlled linear motion.
- Straight or angular wheelhead with hydrodynamic spindle bearings for superior surface finishes and roundness capability.
- 14” X 2” wheel guard with adjustable hood and coolant nozzle plumbing.
- 5 HP AC wheel drive with variable speed drive to maintain constant SFPM.
- Combination live and dead spindle workhead with straight recess spindle nose and #2 MT center.
- Fixed position diamond holder behind the workhead for CNC dress routines.
- Pneumatic tailstock, 1.2” quill movement, with #2 MT center.
- Full enclosure with manual sliding door assembly and multiple maintenance access window panels.

Optional:
- In-process gage for automatic part sizing.
- Automatic lateral locator, wheelhead mounted, with Renishaw probe.
- Automatic wheel balancer, pulley side mounting.
- Electric rotary dressing systems for super abrasive dressing or extended diamond life when processing with standard abrasives.

For more information, visit our website at www.weldon solutions.com.
AGN4 SPECIFICATIONS

CAPACITY
- Max. Work Swing: 7”
- Max. Distance Between centers: 10”
- Max. Supportable Weight: 44 lbs.

WORKHEAD
- Work Speeds, variable: 0 - 1400 RPM
- Center taper: #2 Morse
- Workhead Spindle: Live/dead spindle
- Workhead thru hole: 0.625”

WHEELHEAD
- Travel Distance: 6.7”
- Rapid Traverse Rate: 320 inch/min
- Programmable Feed Rate: 0.00001 - 200 inch/min
- Straight or Angle: 0 or 30 degrees fixed
- Wheel spindle bearings: Hydrodynamic

TAILSTOCK
- Work center taper: #2 Morse
- Quill travel distance: 1.2”
- Quill advance/retraction: Pneumatic

GRINDING WHEEL
- Size (OD x width x ID): 14” x 2” x 5”
- Standard surface speed: 8800 SFPM

TABLE
- Travel Distance: 14”
- Rapid Traverse Rate: 640 inch/min
- Programmable Feed Rate: 0.0001 - 200 inch/min
- Swivel of Taper Adjust: +/− 1 Degree
- Way Construction: Ground, vee and flat pressurized

MOTOR
- Work Spindle: 1.9 HP AC servo
- Wheel Spindle: 5 hp T.E.F.C.
- Wheel Spindle Lube: 1/10 HP
- Hydraulic Oil: 1 HP
- X and Z axis AC servo: 0.6 HP

MACHINE DIMENSIONS AND CONSTRUCTION
- Dimensions: 58”W x 76”D x 74”H
- Centerline of workpiece, height from floor: 41”
- Weight: 4,600 lbs.
- Construction: Cast Iron
- Foundation: 6” Reinforced concrete floor recommended

TANK CAPACITIES
- Way lubrication oil tank: 1 gallon
- Wheel spindle lubrication tank: 4 gallon

LUBRICATION
- Wheel Spindle: Recirculating Hydraulic Oil
- Ways: Automatic Lube Oil
- Ballscrews: Automatic Lube Oil
- Workhead Spindle: Permanent grease packed
- Footstock: Recirculating Hydraulic Oil

ELECTRICAL SPECIFICATIONS
- Standard Voltage: 208/240 volts, 3-phase, 60 Hertz, AC
- Pneumatics: (any other voltage must be referred to the factory for price and delivery)

PNEUMATICS
- Air Pressure: 80 PSI
- Air Volume: 5 SCFM
- Note: System requires a filtered and dry air source

CNC CONTROL SPECIFICATIONS - GE Fanuc 21i-TB
- Manual pulse generator
- Full linear and circular contouring and positioning
- GE Fanuc digital and AC servo systems
- Direct RPM programming or constant surface feet per minute
- Built-in diagnostics
- 7.2” LCD display, monochrome
- Automatic recognition of EIA or ISO coding
- Decimal point programming
- Absolute/Incremental programming
- RS 232 interface
- .0001” command resolution
- Automatic update of offsets
- Program storage, 160 meters

OTHER GRINDER PRODUCTS

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