TECHNICAL SPECIFICATIONS

CNC Specification

CNC TYPE	ANCA Series 2000 Level 1 Single Board Reliability (see separate brochure)
EXECUTIVE STORAGE	EPROM
PART PROGRAM STORAGE	EPROM E2PROM RAM (Battery back up) 228 K
MACHINE I/O CONTROL	PLC Stored in E2PROM

CONTROL FEATURES

Single Board Reliability: The clean functional lines of the FASTGRIND is carried through to the CNC control. The entire electronics as well as the switch mode power supply, is contained in one easily removable module. All cables are attached to the 4 Axes CNC module with gold plated industry standard "D" style plugs.

Full set of Industry Standard G Codes: inch/metric, absolute/incremental, circular and linear interpolation, etc.

Calculation Blocks: this allows imbedded mathematical and trigonometrical functions within the part programs, which, interfaced with the digitising system, reduces the operator's tasks.

4 Axes Spline Interpolation: this is critical on ball nose cutters where the path of the grinding wheel is a complex four dimensional continuous path.

Interactive Conversational Programming: enables the generation of custom data entry screens for family of parts programming.

Variable Part Programming: a single program can be used to produce many similar parts, by using variables in the part program. By inserting known values to replace the variables, a completed part program is produced.

FMS Codes: There are a super set of G codes that are included to allow the part program to interface with the PLC for such things as conditional and unconditional "forcing" on/off PLC status. Likewise PLC bit definitions can be tested by the CNC part program to determine sequence alterations.

DNC: The ANCA Series 2000 Level 1 CNC control has protocol that guarantees error-free part program transmission between a host computer and CNC. The transmission is initiated by the CNC operator via the standard RS232, with an option of fibre optics.

FMS-DNC: This is an optional and sophisticated communications protocol, that enables a host computer to access all CNC data including part programs, variable data, PLC status (including all I/O) and operator entered information.

PLC: The inbuilt PLC can be accessed through the keyboard and can also interface with the DNC to form a complete FMS/CNC.

Diagnostics: Three levels of inbuilt diagnostics are included to test the CNC, the PLC, the machine and the servo system. Operator accessible level allows complete monitoring of the machine/CNC combination. The DNC/FMS interface can also monitor all CNC and machine functions at any time.

TECHNICAL DATA

Model	FASTGRIND TG4
Part No.	96-1300-001

WORKING RANGE

X AXIS LONGITUDINAL STROKE

Maximum Grinding Length (100mm wheel @ 0 deg)	403 mm
Maximum Grinding Length (100mm wheel @ 30 deg)	336 mm
Positional Feedback	
Resolution	0.0005 mm
Servo Input Resolution	0.0005 mm
Programming Resolution	0.001 mm
Rapid Traverse	7000 mm/min
Maximum Feedrate	3500 mm/min
Accuracy	±0.005 per 300mm
Repeatability	±0.001 mm
Drive	Closed Loop Servo Motor

Y AXIS CROSS STROKE

Workpiece Spindle C/L to Grinding Spindle nose (max) @ 0 deg	201 mm
Workpiece Spindle C/L to Grinding Spindle nose (min) @ 0 deg	154 mm
Positional Feedback	
Resolution	0.0005 mm
Servo Input Resolution	0.0005 mm
Programming Resolution	0.001 mm
Rapid Traverse	3500 mm/min
Maximum Feedrate	3500 mm/min
Accuracy	±0.005 mm per 300 mm
Repeatability	±0.001 mm
Drive	Closed Loop Servo Motor

Z AXIS VERTICAL STROKE

Workpiece Spindle C/L to Grinding Spindle nose (max)	149 mm
Workpiece Spindle C/L to Grinding Spindle nose (min)	37 mm
Positional Feedback	
Resolution	0.0005 mm
Servo Input Resolution	0.0005 mm
Programming Resolution	0.001 mm
Rapid Traverse	7000 mm/min
Maximum Feedrate	3500 mm/min
Accuracy	±0.005 per 300 mm
Repeatability	±0.001 mm
Drive	Closed Loop Servo Motor

A AXIS WORKPIECE SPINDLE

Maximum Swing	354 mm
Part Weight	15 kg
Workpiece Taper	ISO50
Maximum Speed	150 rpm, 250 rpm option
Positional Feedback	
Resolution	0.005 deg
Servo Input Resolution	0.005 deg
Programming Resolution	0.001 deg
Speed Range (closed position loop)	0-150 rpm
Accuracy	±0.05 deg
Repeatability	±0.025 deg
Draw Bar Thread	M24
Maximum Runout at Workpiece Spindle nose (TIR)	0.005 mm
Drive	Closed Loop Servo Motor

GRINDING SPINDLE

Power	1.1 Kw 3.3 Kw Option
Speed	1910/2870/4305 rpm
or	2296/3445/5167 rpm
Grinding Wheel Locations	Front/Back
Rotation	Fwd/Rev
Quill Diameter	80 mm
Quill Manual Advance	100 mm
Maximum Runout at Grinding Spindle nose (TIR)	0.002 mm

COLUMN (5th Axis)

Manual Rotation	360 deg
Rotational Graduations	1 deg
Clamping	3 points

FASTPROBE

Sensing Type	Trigger
Measurement Technique	'on-the-fly'
Location Repeatability	0.005 mm
Measurement Repeatability	0.005 mm
Permissible Overtravel	12 mm
Degrees of Freedom	6 directions
Tip construction (replaceable)	Tungsten Carbide

MACHINE

Color	RAL7035/RAL5014 (Durethane paint)
Weight	1800 kg
Power Requirements	(18 KVA) (50/60 Hz) 480/440/415/380/220
Coolant Manifold Inlet Thread (1 off)	
Coolant Manifold Outlet Thread (3 off)	
Watertight Guarding	Fully enclosed
Cooling	Heat Exchanger
Interface (DNC)	RS232 V24
Translations Available	English/German