



D E N F O R D



# *STARTURN PC*

*INSTRUCTION  
OPERATION*

*&*

*MAINTENANCE MANUAL*

*Version - 2.17*

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## **1. STANDARD EQUIPMENT**

### **STANDARD EQUIPMENT SUPPLIED**

- 1 STARTURN PC CNC LATHE
- SOFTWARE DISCS
- 1 SET OF INSTRUCTION/MAINTENANCE MANUALS

### **STANDARD TOOLING:-**

- 1 MANUAL 3 JAW CHUCK WITH CHUCK KEY
- QUICK CHANGE TOOL POST +1 HOLDER (IF EIGHT STATION TURRET NOT SUPPLIED)
- 1 SET OF METRIC ALLEN KEYS
- 1 SET OF MACHINE FUSES

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## **2. SPECIFICATION**

### **SPECIFICATION SHEETS**

#### **MACHINE SPECIFICATION**

##### **1. STANDARD FEATURES - STARTURN PC**

###### **A) General:**

###### **1) Machine Dimension List:-**

Length:	700mm (27.5")
Width:	555mm (21.84")
Height:	480mm (18.9")
Weight	89kg (196lbs)

###### **B) Capacity:**

Maximum Turned Length:	225mm (8.75")
Maximum Turned Diameter:	150mm (6")
Swing Over Bed:	200mm (7.87")
Swing Over Crossslide	80mm (3.12")
Spindle Bore No. 3MT:	20.6mm (0.812")dia.thro'
Spindle Nose A-2 type:	42mm( 1.653")
"X" Axis Travel:	150mm (6")

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**"Z" Axis Travel:** 225mm (8.85")

**Bed:** Hardened and Ground of slant design

**C) Main Spindle:**

**Drive Motor** 0.45 Kw / .6HP DC

**Spindle Nose :** A2 type

**Spindle Bore :** 20.6mm

**D) Saddle**

**Configuration:** 45 degree Slant

**Axis Motor:** Stepper motor 200 steps/rev

**E) Optional Indexing Turret:**

**Turret Lead Type:** Drum

**Number of Tool Stations:** 8

**Tool Size Square:** 12mm x 12mm(.5" x .5")

**Round:** 19mm Diameter ( .75")

**Indexing Time:** One Station: Approximately 0.65 secs

**One Revolution: Approximately:** 1.75 secs

**NOTE:** Maximum Turning Diameter may be limited due to Tooling

**F) Machine Work Light :** 110 Volts AC

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G)Power Supply:

1PH 240V

Total Power Connected:

8 Amp/Phase

## 2. OPTIONAL FEATURES

A) Pneumatic chuck.

B) Pneumatic tailstock

C)Pneumatic guard

Tooling and work-holding equipment can be supplied to suit a customers requirements.

(FOR FURTHER DETAILS CONTACT DENFORD SALES DEPARTMENT)



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## CONTROL SOFTWARE FEATURES

### STANDARD FEATURES

- Simultaneously controlled axes X and Z.
- Full Circular interpolation.
- Combined Use of Absolute and Incremental in Same Block.
- Internal / External Screwcutting.
- Imperial or Metric Programming.
- Diameter or Radius Programming.
- Subprogram with Repeat Facility .
- Tool Nose Radius Compensation.
- Canned Turning Cycles.
- Roughing and Finishing Cycles.
- Output to Printer and Punch Tape.
- Tool offsets for Sixteen Tools.
- Dry- run Facility.
- Single Block and Auto Execution.
- Datum Shift.
- Zoomed views.
- Programs Stored on Floppy or Hard Drive(if fitted)
- Up to 6000 G Codes in Editor.
- Context Sensitive Help

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- Overtravel Limits and Emergency Stop.
  - Feed and Speed Rate Override.
  - Dwell Facility
  - Comprehensive Toolpath Graphics Simulation Including 3D .
  - D.N.C" Drip Feed" from RS232 or Floppy Disk.
  - Multiple Repetitive Cycles.
  - Display Actual Position and Distance to Go.
  - Edit and Simulate Mode.
  - Directory Listing.
  - Merge Programs.
  - Comprehensive Error Messages.
  - Cycle Start \ Feed Hold.
  - Cycle Time Display.
  - Tool Wear Compensation.
  - Tool Nose Radius Compensation.
  - Feed\Min or Feed\Rev Programming.
  - Constant Surface Speed Programming.



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### **3. SAFETY FUNCTIONS**

- Key operated Isolator switch.
- Emergency Stop.
- Membrane Keyboard.
- Totally Interlocked guard.
- Axes Limit Switches.
- Graphics Facility for proving programs prior to machining.

#### **NOTES:**

Power Supply:	Single phase 240 Volts AC.
Temperature:	0 - 45 degrees C.
Relative Humidity :	Less than 75%.

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## **SAFETY PRECAUTIONS**

This machine has safety devices fitted to protect the machine and operator from unexpected accidents.

### **1. TIDYNESS**

Do not place objects on or around the machine so that it interferes with the guards or the operation of the machine.

### **2. POWER SOURCE**

Ensure the correct cable for the power source is used .

When power fails turn off the isolator (found on electric box) immediately.

When leaving at the end of a shift ensure the power is switched off.

Ensure that the machine is switched off before any maintenance is carried out.

### **3. LUBRICATION**

For lubrication please refer to chart in maintenance section.

Check state of slideway lubrication each day.

### **4. RECOMENDATIONS ON SAFETY OF OPERATION.**

Always wear clothing that is suitable for operating the machine.

Secure workpiece securely in chuck in fixture or collet.

Only operate the machine with the safety guards closed.

Do NOT open the safety guards during operation.

It is very dangerous to touch any rotating part of the machine, NEVER attempt to remove swarf whilst the machine is in motion.

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After setting tools , perform trial cut using manual operation.

Remember to use tool offsets to avoid machining errors.

Never clean the machine or its attachments when the machine is running.

Do not operate the machine with the electrical control box open.

Turn the isolator to OFF before opening the electrical cabinet.

When an emergency stop is required press the EMERGENCY STOP red keyswitch on the front of the machine, this will cut power to the spindle and the axis drives, reset by inserting key and turning power on.

