



# BenchTurn 7100 CNC Turning Center

The BenchTurn 7100 is a benchtop CNC turning machine for learning environments. The 7100 comes equipped with 2-axis stepper motors, ball screws, a variable speed brushless spindle motor, limit/home switches, and an MT3 taper spindle with MT2 taper tailstock. This system requires no assembly, arriving at your facility ready to run on an Ethernet port on a standard PC, and fits comfortably into any classroom without sacrificing features. Like larger industrial machines, the BenchTurn 7100 uses EIA, ISO, and FANUC™-compatible G&M code programs to cut parts in a variety of materials.



## Standard Features

- Ethernet-based control
- Brushless spindle motor
- Full enclosure with automatic safety door lock
- Tailstock
- Automatic diagnostics and power cut off protection
- PC-based CNC software
- Coolant-ready
- Jog pendant-ready
- Robotic integration-ready with 6 inputs, 6 outputs
- No assembly required

## Included Accessories

- 4" 3-jaw chuck with key
- 4-station automatic tool turret
- One shot lubrication system
- Internal work light

## Accessory kit includes:

- (1) Chuck key
- (1) Chuck jaw set
- (2) Dead centers
- (1) 4-pc. Allen wrench set
- (1) 2-pc. Open-end wrench set
- (1) 2M Ethernet cable
- (1) Storage box
- Misc. accessories

## Specifications

### Axis Travel

X Axis, max	75 mm	2.96"
Z Axis	250 mm	9.84"

### Work Area

Swing over bed	200 mm	7.87"
Swing over cross slide	100 mm	3.94"
Max dist. between centers	360 mm	14.17"
Bed width	100 mm	3.94"

### Spindle

Motor Type	Brushless	
Motor power	500 W / 0.67 HP	
Spindle speed	100-3000 RPM	
Spindle taper	MT3	

### Tooling

Automatic tool position	4	
Tool post angle	360 deg.	
Tailstock taper	MT2	
Tailstock travel	50 mm	1.97"

### Accuracy

Position accuracy	0.015 mm	0.0006"
Repeatability	0.010 mm	0.0004"

### Dimensions

#### Machine size

Width	1093 mm	43.00"
Depth	864 mm	34.00"
Height	565 mm	22.25"

#### Shipping size

Width	1435 mm	56.50"
Depth	1020 mm	40.15"
Height	960 mm	37.75"

### Weight (approximate)

Machine weight	170 Kg	353 lbs
Shipping weight	220 Kg	485 lbs

### Axis Drive Motors

Axis motor type	Stepper	
X axis	1.35 N-m	192 oz-in
Z axis	1.35 N-m	192 oz-in
Rapid feed rate	2000 mm/min	79 ipm
Feed rate	500 mm/min	20 ipm

### Air Supply\*

\*Only required for optional pneumatic accessories:  
620 kPa (90 psi)  
1/4" NPT female connection provided

### Control Software

EIA RS274-D standard G & M code compatible  
FANUC® compatible  
CAD/CAM compatible  
Advanced NC code editing  
Real-time or simulated graphic tool path verification

### Power Requirements

#### United States

115 VAC (+5%/-10%) 60 Hz, 20A

#### International

230 VAC (+5%/-10%) 50 Hz, 8A

# BenchTurn 7100 CNC Turning Center

## Options and Accessories

Coolant System



Air Chuck for BenchTurn 7100



TiN-coated Cutter, 7-pc set, 10mm x 10mm



Jog Pendant Handwheel



MT2 Tailstock Chuck



4-Jaw Chuck with Flange (3.9")



3-drawer mobile workbench 60"



Rolling Center, Tailstock MT2



## Ordering Information

### Hardware

BenchTurn 7100 - 110 VAC	00-5504-N110
BenchTurn 7100 - 220 VAC	00-5504-N220

#### **Starter Bundle, 110/220 VAC, Imp/Met HW-BT7K-STRT**

Includes:

- CNC BenchTurn 7100
- 10 x 10mm Cutter Tool Holder
- TiN-coated Tip
- Drill Chuck for Tailstock
- Rolling Center
- LM7 Content, Vir, CNC Turning w/BenchTurn 7100

#### **Advanced Bundle, 110/220 VAC, Imp/Met HW-BT7K-ADV**

Includes all Starter Bundle items, plus:

- 4-jaw Chuck
- Handwheel - Manual Control
- Coolant System

### Software

CNCMotion® Simulation & Design Software	63-6001-2000
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### Curriculum

CNC Turning Content, Lab/Vir, Imp/Met	88-3148-0000
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### Accessories

4-Jaw Chuck with 3.9" (100mm) Flange	10-1106-7000
Pneumatic Air Chuck	10-1110-9000
TiN-coated Cutter w/Inserts, 10 mm, 7-Pc Set	10-1110-1000
Cutter Insert Replacements 7-pc Set,	10-1110-2000
Pneumatic Shield Opener with Sensors	10-1110-5000
Tailstock Chuck MT2 Taper 1/2" (13mm)	10-1105-7000
Rolling Center, Tailstock MT2 Taper	10-1106-6000
Basic Air Compressor and Conditioning System	324325
Jog Pendant Handwheel	10-1111-1000
Coolant System - 110 VAC	10-1108-1110
Coolant System - 220 VAC	10-1108-1220
Mobile Workbench with 3-Drawer Cabinet, 96"	10-5592-0000
Project Kit, Chess Set	10-7551-0000
Project Kit, Sterling Engine	10-9603-0000

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