

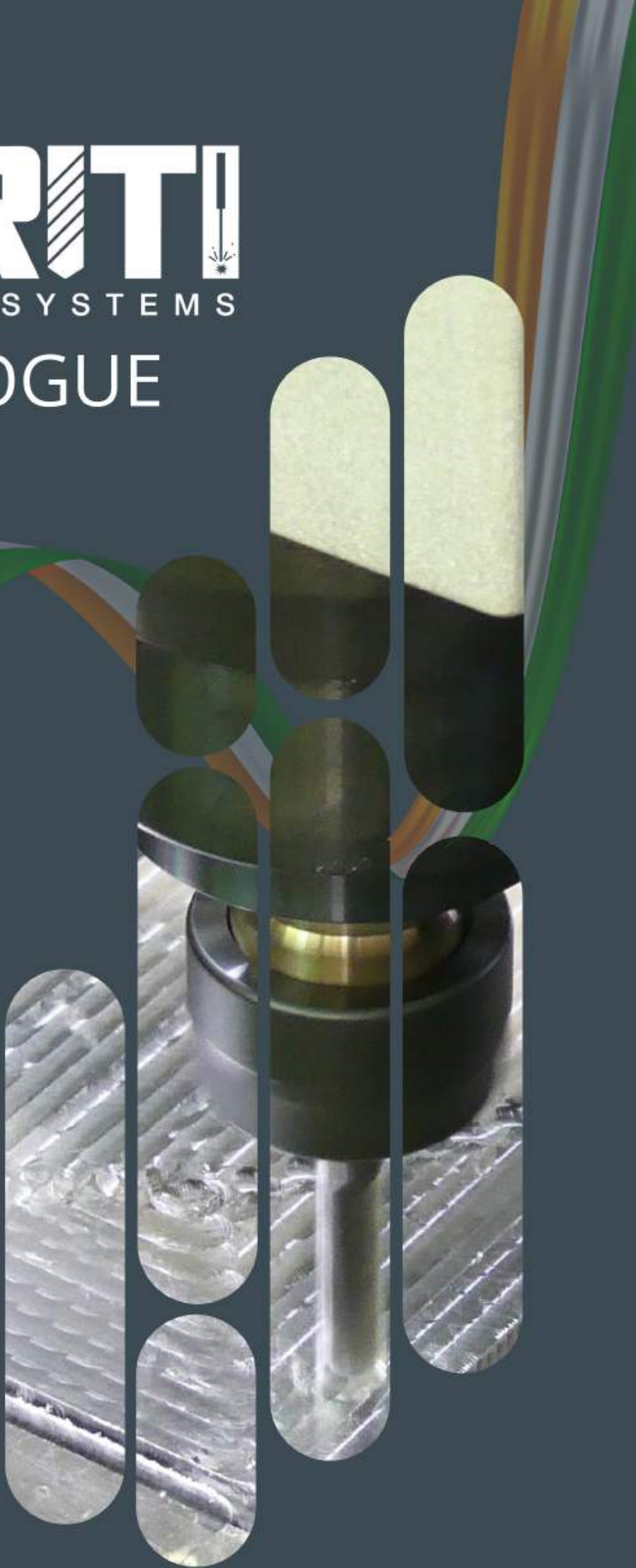
AKRITI

PRECISION SYSTEMS

CATALOGUE



& more





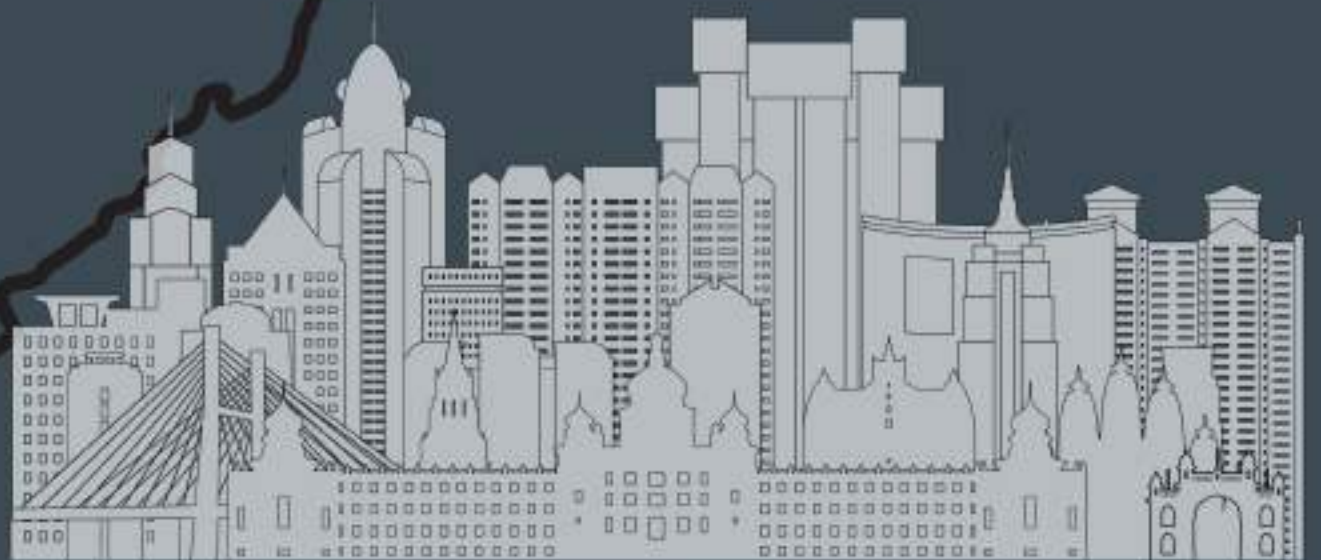
MADE IN INDIA



ENGINEER BEAUTIFUL

ABOUT US

Founded in 2019, Akriti Precision Systems designs and develops products utilizing innovative natural & artificial materials to last a lifetime.



9A, Prop No 439, Kalkere Main Road,
Kalkere, Bangalore, Karnataka, India -
560016

Our first product was the world first Composite Superstructure 3-Axis CNC Machine designed for commercial & educational segments launched in 2021. More designs & models were released in mid 2022.

We are a small team dedicated to making high precision engineering products.

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3 AXIS CNC MACHINES

BUILD AREA

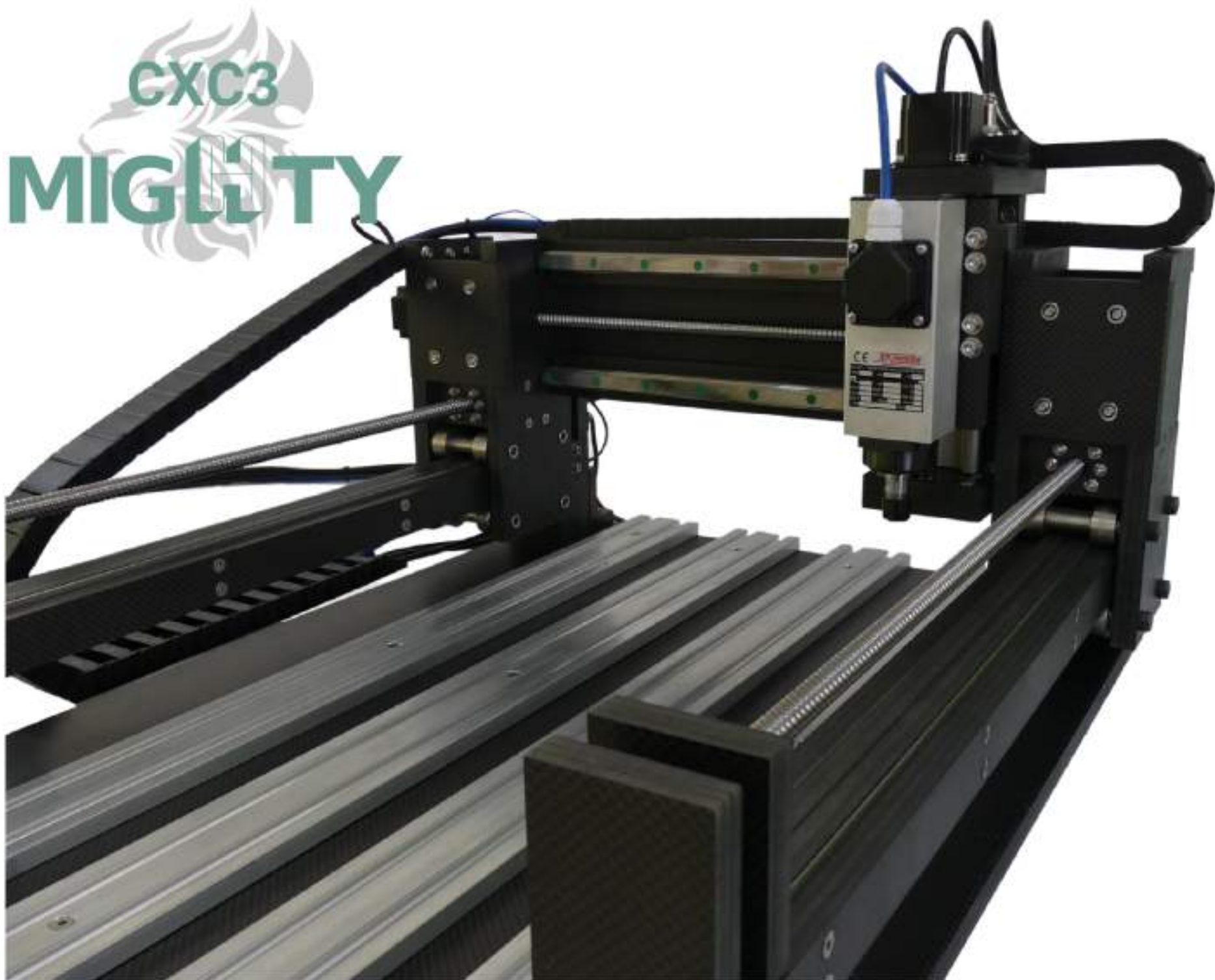
600 x 400 MM

24 x 16 IN.

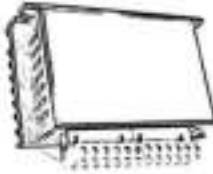
2 x 1.3 FT.

World's First Composite Super Structure CNC

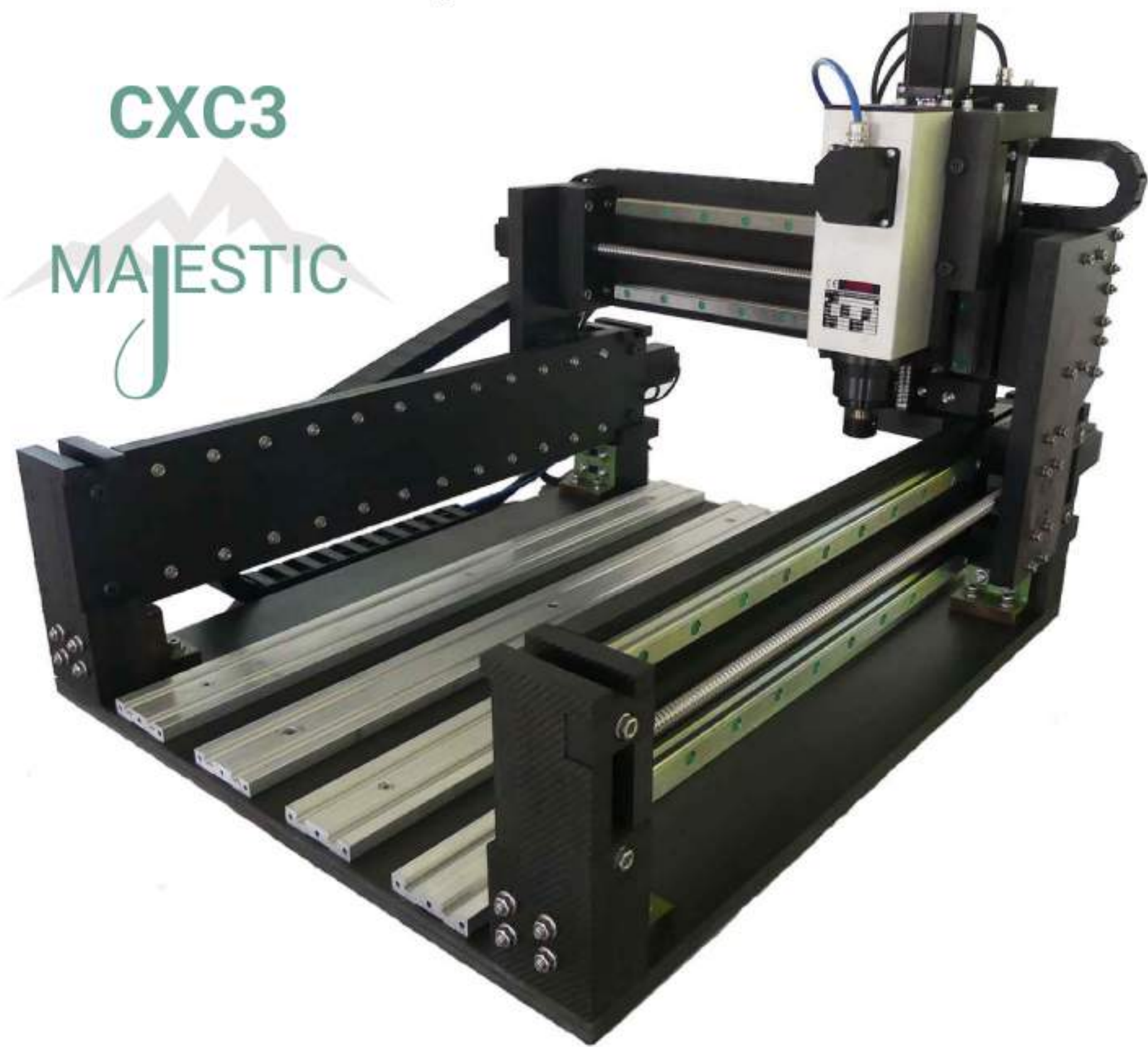
1.1.1.1 CXC3 – Mighty



External Dimensions 1000 (L) x 800 (W) x 500 (H) (MM)
Build Area Dimensions **600 (L) x 400 (W) x 100 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 5 Meters / Minute
Travel Speed Z Axis 2 Meters / Minute

Spindle  Teknomotor RPM 18000 0.73 KW 3.1 kg / ER16	Stepper  Mechtex Nema 23&24 200 Steps / Rev	Drivers  TinyControls 4.2 Amps, 10 Microsteps	Composite Superstructure Controller Arduino UNO Ball Screws Hiwin Linear Guides Hiwin & Akriti
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1.1.1.2 CXC3 – Majestic



External Dimensions 1000 (L) x 800 (W) x 600 (H) (MM)
Build Area Dimensions **600 (L) x 400 (W) x 125 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 6 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

			Composite Superstructure
Teknomotor	Mechtex		Controller
RPM 24000	Nema 23&24	TinyControls	Arduino UNO
2.2 KW	200 Steps / Rev	4.2 Amps, 10 Microsteps	Ball Screws
9 kg / ER 20			Hiwin
			Linear Guides
			Hiwin



3 AXIS CNC MACHINES

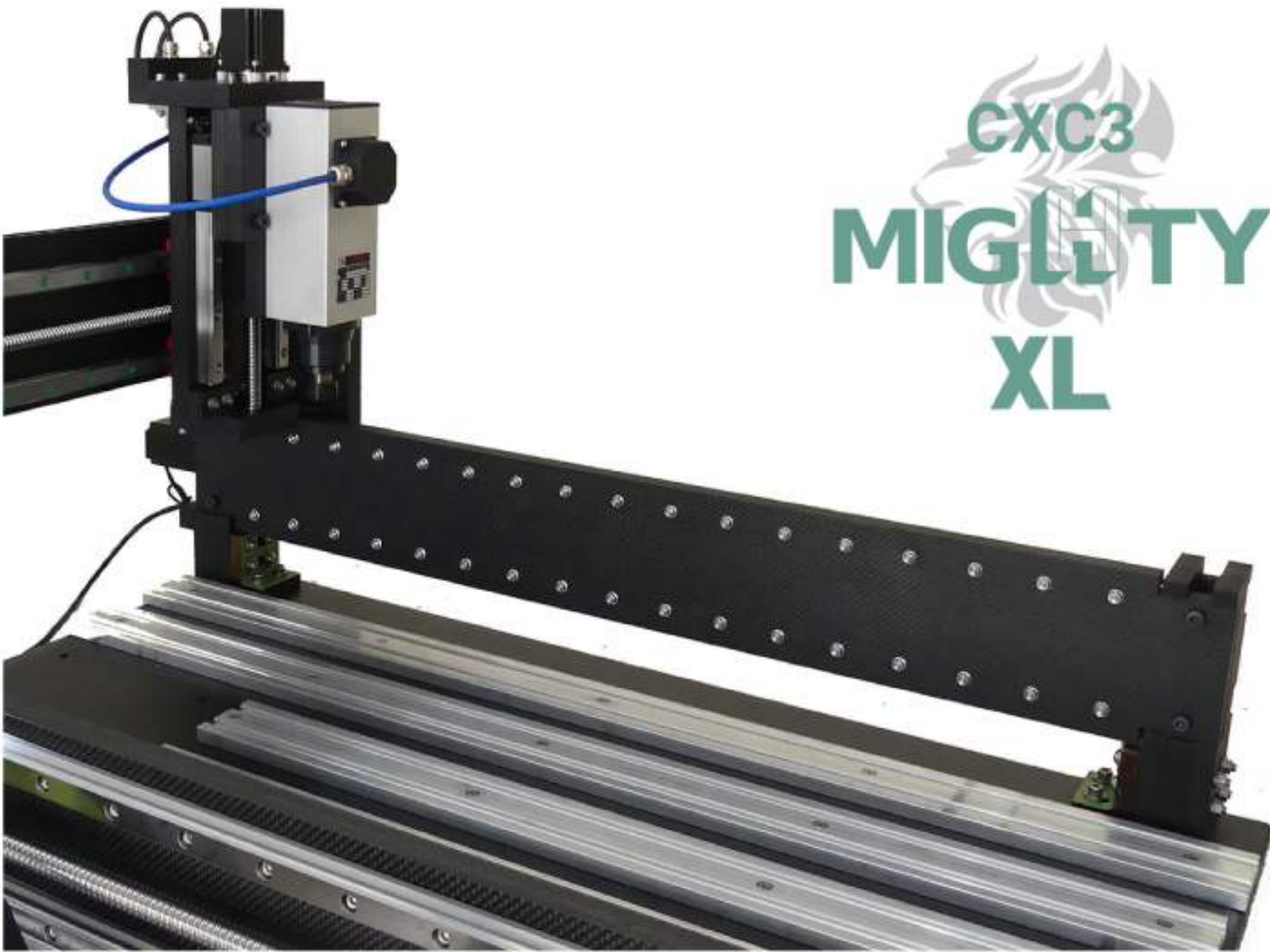
BUILD AREA

900 x 600 MM

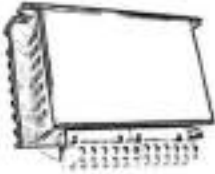
36 x 24 IN.

3 x 2 FT.

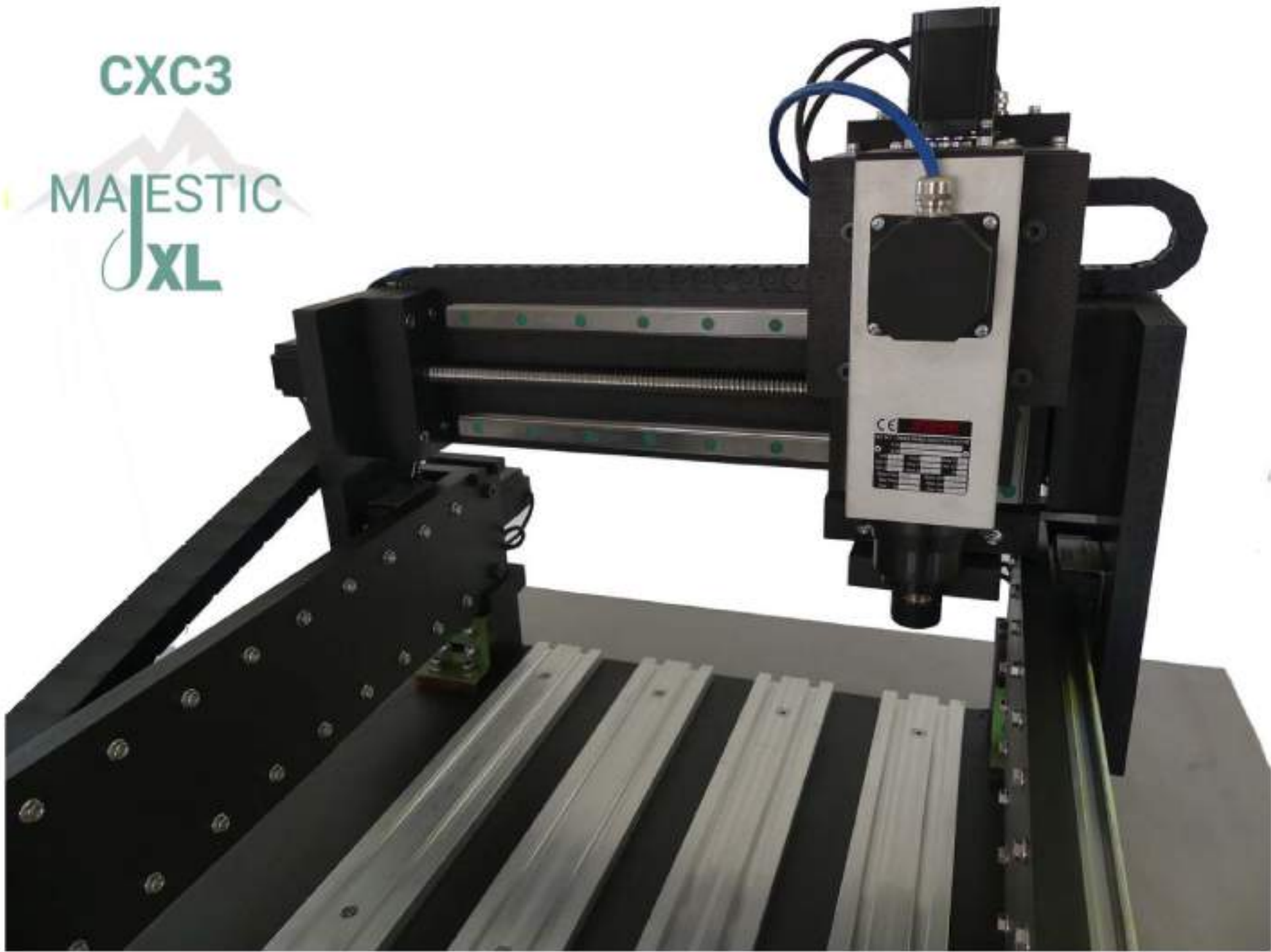
1.1.2.1 CXC3 – Mighty XL



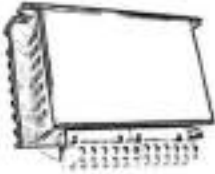
External Dimensions	1350 (L) x 1000 (W) x 730 (H) (MM)
Build Area Dimensions	<u>900 (L) x 600 (W) x 200 (H) (MM)</u>
Electronics Board Size	360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis	5 Meters / Minute
Travel Speed Z Axis	5 Meters / Minute

Spindle  Teknomotor RPM 24000 0.73 KW 3.1 kg / ER16	Stepper  Mechtex Nema 23&24 200 Steps / Rev	Drivers  TinyControls 4.2 Amps, 10 Microsteps	Composite Superstructure Controller Arduino UNO Ball Screws Hiwin Linear Guides Hiwin
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1.1.2.2 CXC3 – Majestic XL



External Dimensions 1300 (L) x 1000 (W) x 600 (H) (MM)
Build Area Dimensions **900 (L) x 600 (W) x 200 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 10 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

Spindle  Teknomotor RPM 24000 2.2 KW 9 kg / ER 20	Stepper  Mechtex Nema 24&34 200 Steps / Rev	Drivers  TinyControls 4.2 Amps & 7 Amps, 10 Microsteps	Composite Superstructure Controller Arduino Uno Ball Screws Hiwin Linear Guides Hiwin
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3 AXIS CNC MACHINES

BUILD AREA

1520 x 900 MM

60 x 36 IN.

5 x 3 FT.

1.1.3.1 CXC3 – MEGA 53



External Dimensions 1970 (L) x 1320 (W) x 730 (H) (MM)
Build Area Dimensions **1520 (L) x 900 (W) x 200 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 8 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

Spindle  Teknomotor RPM 24000 2.2 KW Std. 6 KW – Upg.	Stepper  Mechtex Nema 24&34 200 Steps / Rev	Drivers  TinyControls 4.2 Amps & 7 Amps, 10 Microsteps	Composite Superstructure Controller Arduino Ball Screws Hiwin Linear Guides Hiwin
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1.1.4 CXC3 – What's included in the box

3 Axis Machine w/Electronics BOX

Milling Bits – 5 PCS

--3MM Dia Single Flute Bit

(for Aluminum / Acrylic / ACP)

--4MM Dia Straight Bit

--6MM Dia Straight Bit

--3MM Dia Corn Bit

--3MM Dia V Point Carving Bit

ER 16/20/25 Collet – 3 PCS

--3MM Dia

--4MM Dia

--6MM Dia

T Nuts (For Securing the Material) – 10

ER 16/20-M Type Spanner with Rubber Grip – 1

3 Meter USB Cable – 1

Stock Mounting Bolts & Nuts – 8 Pcs

Composite Stock Holders – 4 Pcs

ALL 3 Axis Machines require Universal GCode Sender Software - Compatible with Windows, Linux & MacOS



4 AXIS CNC MACHINES

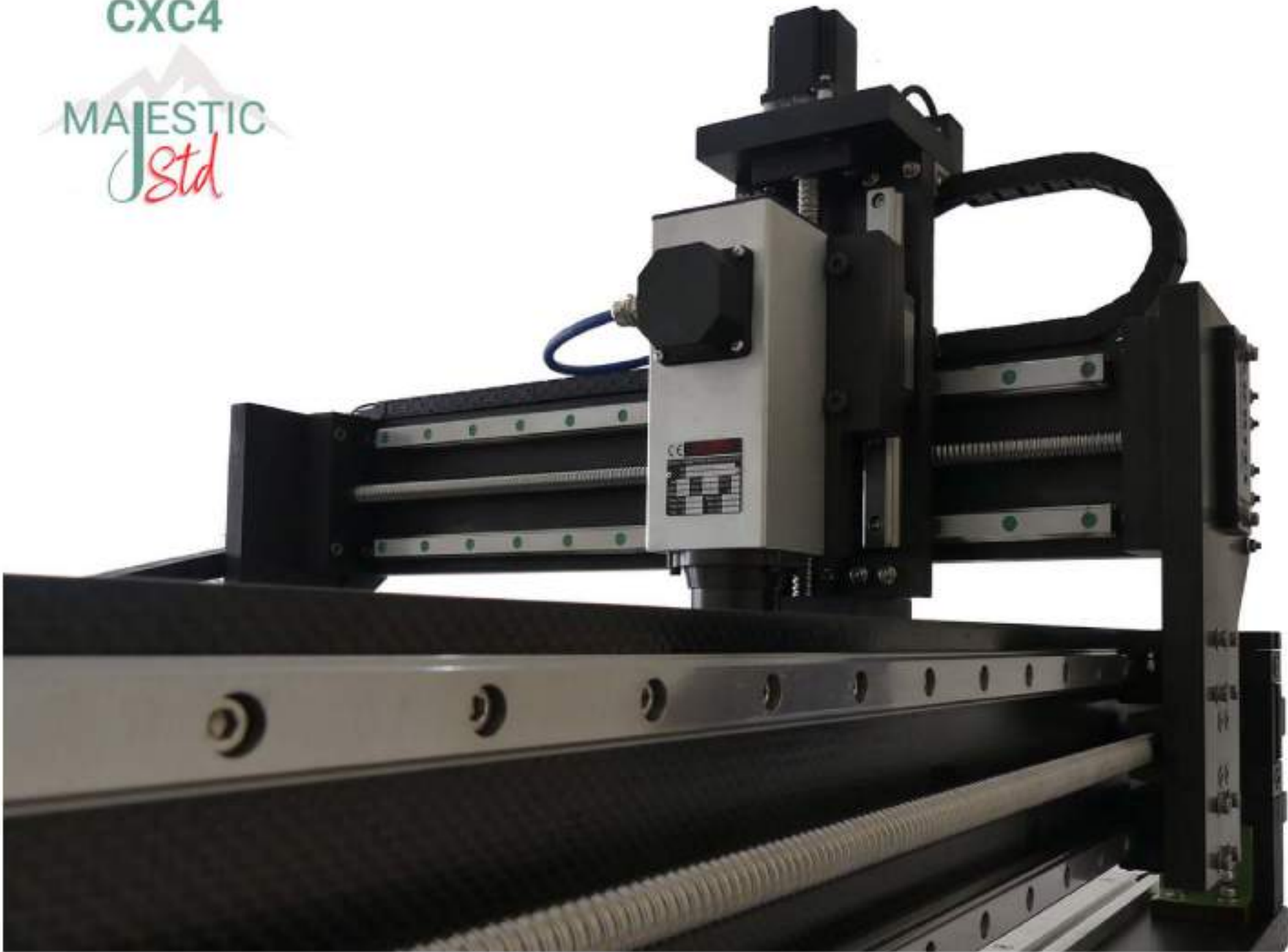
BUILD AREA

600 x 400 MM

24 x 16 IN.

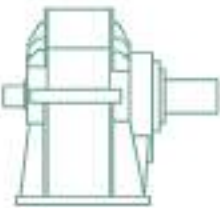
2 x 1.3 FT.

1.2.1.1 CXC4 – Majestic Standard

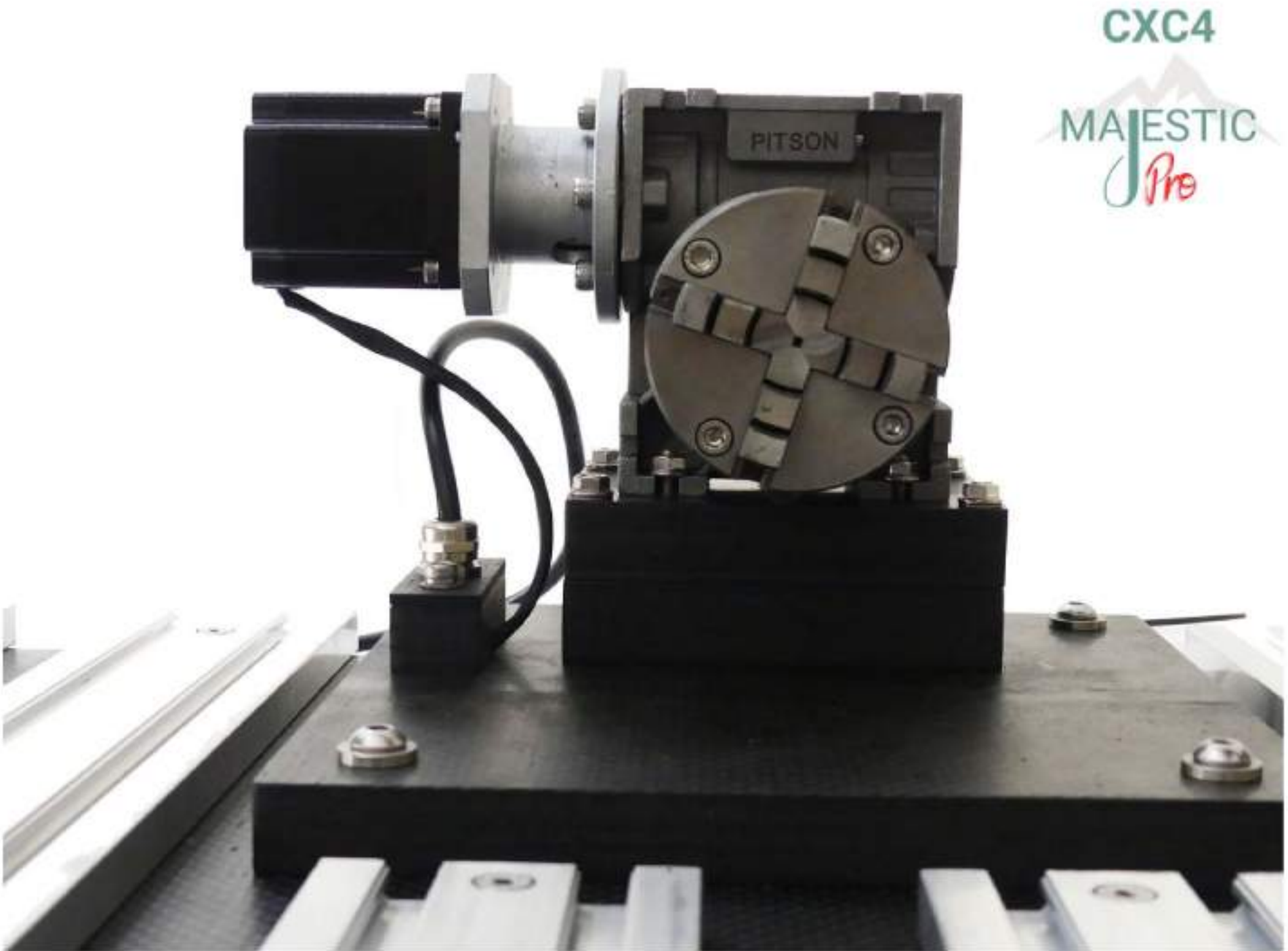


*. Requires a Parallel Port Control PC. Included in Price along with 22" FullHD Monitor

External Dimensions 950 (L) x 820 (W) x 650 (H) (MM)
Build Area Dimensions **600 (L) x 400 (W) x 125 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 6 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

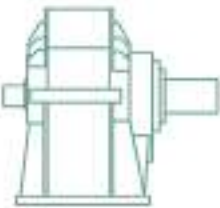
Spindle  Teknomotor RPM 24000 2.2 KW 9 kg / ER 20	Gearbox  Pitson High Precision <10 Arc Min. Backlash	Drivers  TinyControls 4.2 Amps, 10 Microsteps	Composite Superstructure Controller TinyControls Ball Screws Hiwin Linear Guides Hiwin
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1.2.1.2 CXC4 – Majestic Professional



*. Requires a Parallel Port Control PC. Included in Price along with 22" FullHD Monitor

External Dimensions 950 (L) x 820 (W) x 650 (H) (MM)
Build Area Dimensions **600 (L) x 400 (W) x 125 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 6 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

Spindle  Teknomotor RPM 24000 2.2 KW 9 kg / ER 20	Gearbox  Pitson Extreme Precision <5 Arc Min. Backlash	Drivers  TinyControls 4.2 Amps, 10 Microsteps	Composite Superstructure Controller TinyControls Ball Screws Hiwin Linear Guides Hiwin
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4 AXIS CNC MACHINES

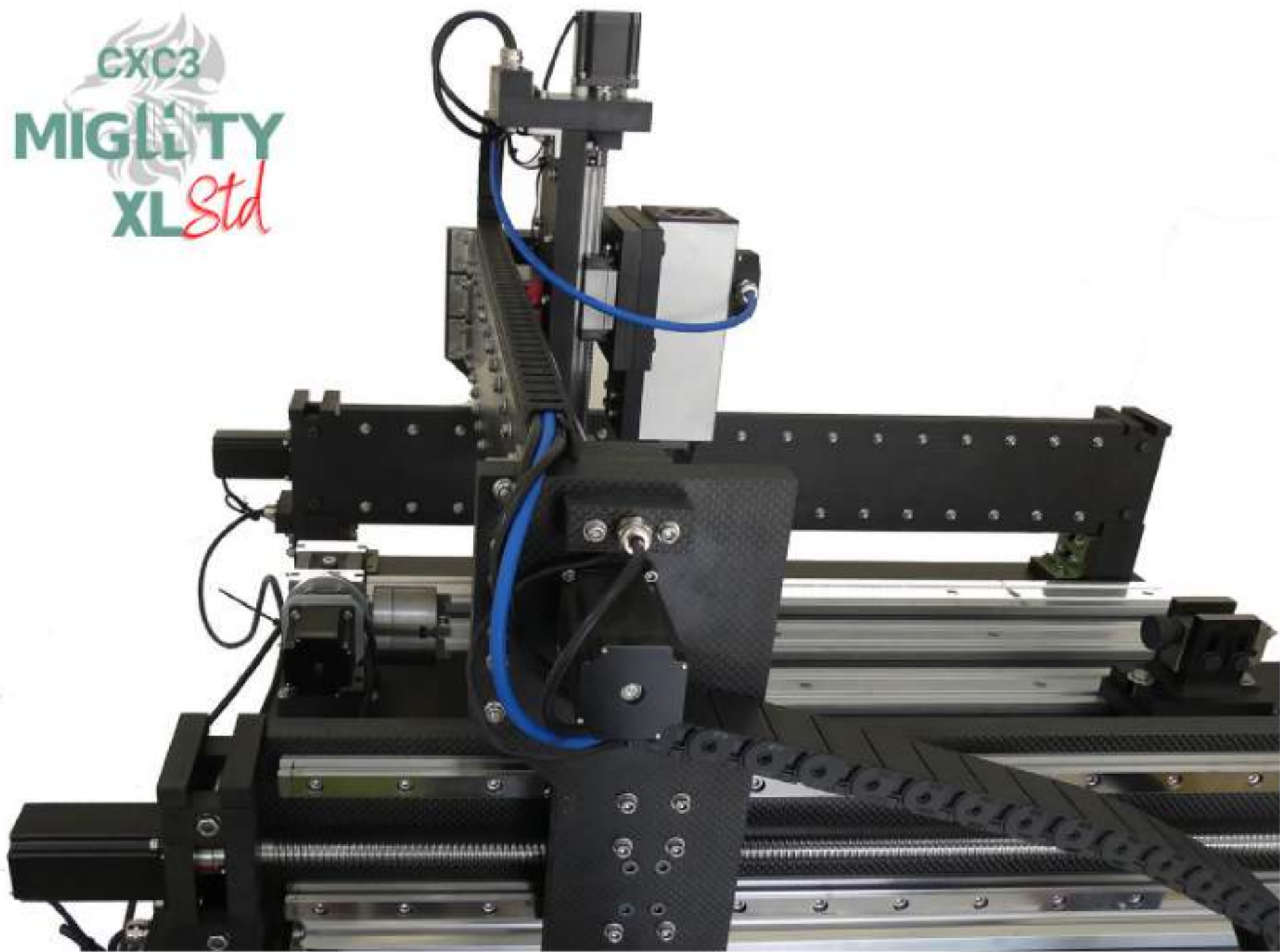
BUILD AREA

900 x 600 MM

36 x 24 IN

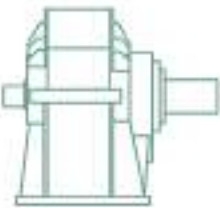
3 x 2 FEET

1.2.2.1 CXC4 – Mighty XL Standard

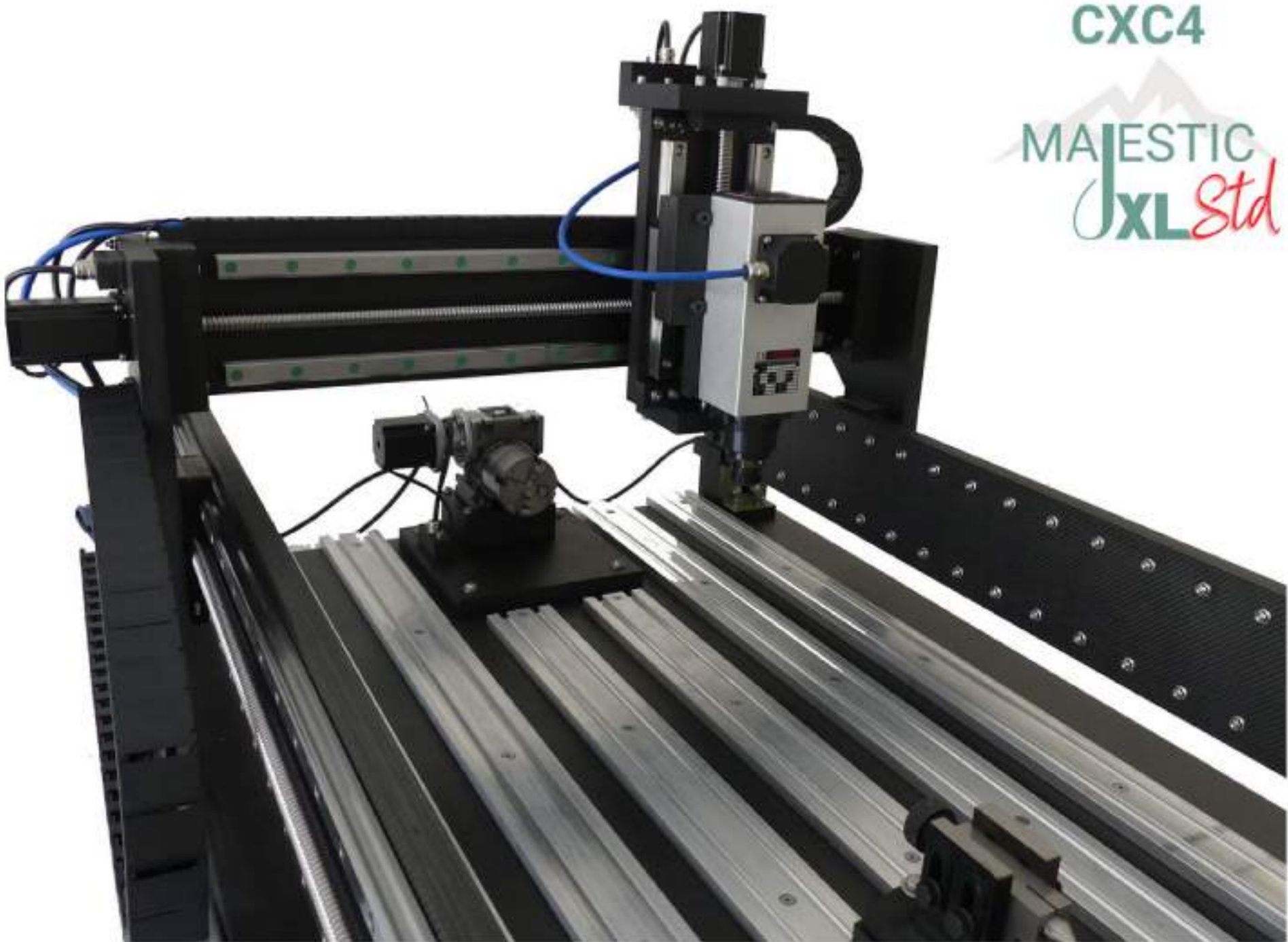


*. Requires a Parallel Port Control PC. Included in Price along with 22" FullHD Monitor

External Dimensions 1350 (L) x 1000 (W) x 730 (H) (MM)
Build Area Dimensions **900 (L) x 600 (W) x 200 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 5 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

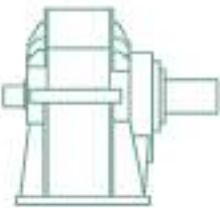
Spindle  Teknomotor RPM 24000 2.2 KW 9 kg / ER 20	Gearbox  Pitson High Precision <10 Arc Min. Backlash	Drivers  TinyControls 4.2 Amps, 10 Microsteps	Composite Superstructure Controller TinyControls Ball Screws Hiwin Linear Guides Hiwin
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1.2.2.2 CXC4 – Majestic XL Standard

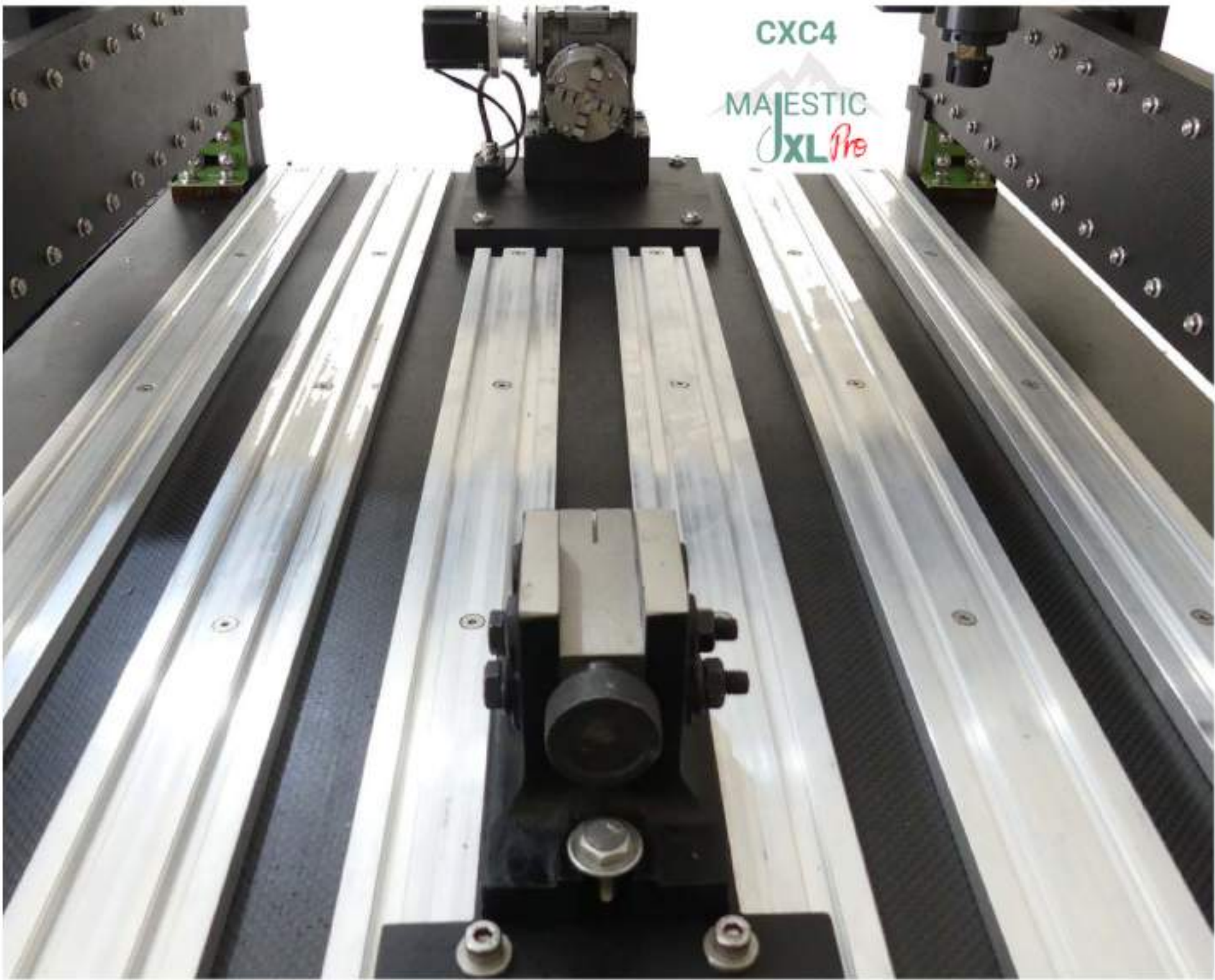


*. Requires a Parallel Port Control PC. Included in Price along with 22" FullHD Monitor

External Dimensions 1350 (L) x 1000 (W) x 730 (H) (MM)
Build Area Dimensions **900 (L) x 600 (W) x 200 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 10 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

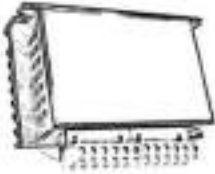
Spindle  Teknomotor RPM 24000 2.2 KW 9 kg / ER 20	Gearbox  Pitson High Precision <10 Arc Min. Backlash	Drivers  TinyControls 4.2 Amps & 7 Amps, 10 Microsteps	Composite Superstructure Controller TinyControls Ball Screws Hiwin Linear Guides Hiwin
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1.2.2.3 CXC4 – Majestic XL Professional



*. Requires a Parallel Port Control PC. Included in Price along with 22" FullHD Monitor

External Dimensions 1350 (L) x 1000 (W) x 730 (H) (MM)
Build Area Dimensions **900 (L) x 600 (W) x 200 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 10 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

Spindle  Teknomotor RPM 24000 2.2 KW 9 kg / ER 20	Stepper  Pitson Extreme Precision <5 Arc Min. Backlash	Drivers  TinyControls 4.2 Amps & 7 Amps, 10 Microsteps	Composite Superstructure Controller TinyControls Ball Screws Hiwin Linear Guides Hiwin
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4 AXIS CNC MACHINES

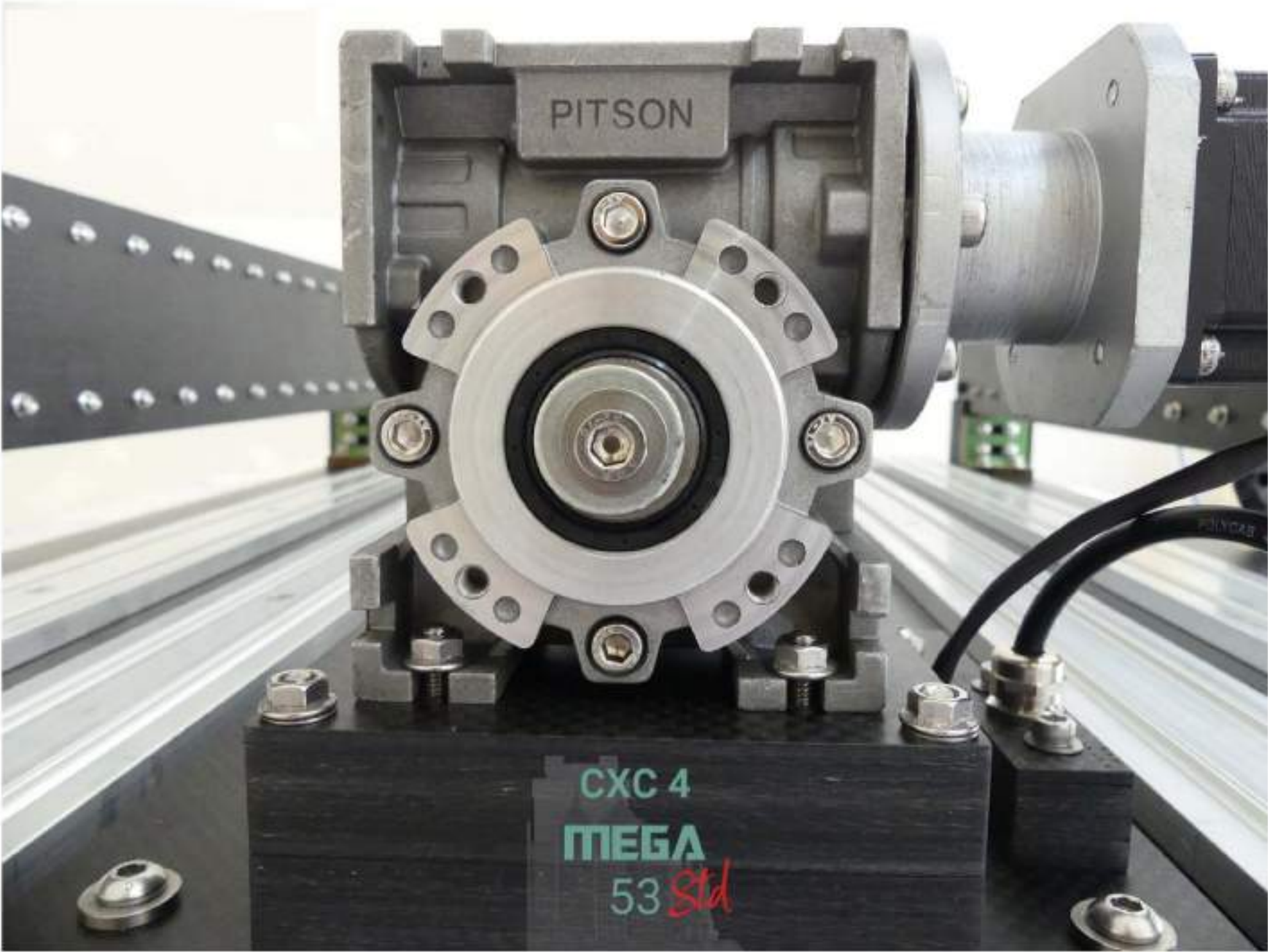
BUILD AREA

1520 x 900 MM

60 x 36 IN

5 x 3 FEET

1.2.3.1 CXC4 - Mega 53 Standard

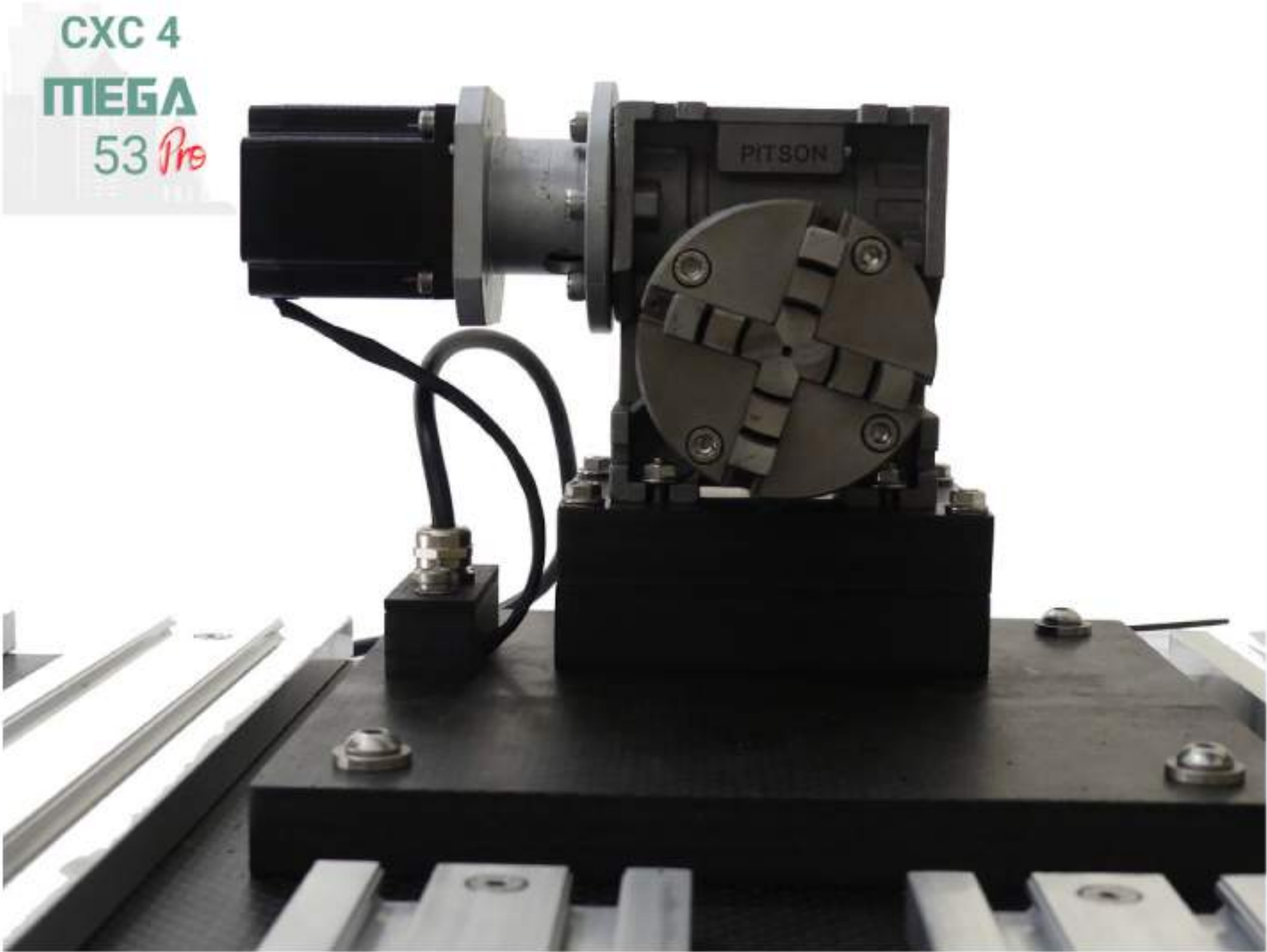


*. Requires a Parallel Port Control PC. Included in Price along with 22" FullHD Monitor

External Dimensions 1970 (L) x 1320 (W) x 730 (H) (MM)
Build Area Dimensions **1520 (L) x 900 (W) x 200 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 8 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

Spindle  Teknomotor RPM 24000 2.2 KW Std. 6 KW - Upg.	Stepper  Pitson High Precision <10 Arc Min. Backlash	Drivers  TinyControls 4.2 Amps & 7 Amps, 10 Microsteps	Composite Superstructure Controller TinyControls Ball Screws Hiwin Linear Guides Hiwin
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1.2.3.2 CXC4 – Mega 53 Professional



*. Requires a Parallel Port Control PC. Included in Price along with 22" FullHD Monitor

External Dimensions 1970 (L) x 1320 (W) x 730 (H) (MM)
Build Area Dimensions **1520 (L) x 900 (W) x 200 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 8 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

Spindle  Teknomotor RPM 24000 2.2 KW Std. 6 KW – Upg.	Stepper  Pitson Extreme Precision <5 Arc Min. Backlash	Drivers  TinyControls 4.2 Amps & 7 Amps, 10 Microsteps	Composite Superstructure
			Controller
			TinyControls
			Ball Screws
			Hiwin
			Linear Guides
			Hiwin

1.2.4 CXC3 – What's included in the box

4 Axis Machine w/Electronics BOX

Milling Bits – 5 PCS

--3MM Dia Single Flute Bit

(for Aluminum / Acrylic / ACP)

--4MM Dia Straight Bit

--6MM Dia Straight Bit

--3MM Dia Corn Bit

--3MM Dia V Point Carving Bit

ER 16/20/25 Collet – 3 PCS

--3MM Dia

--4MM Dia

--6MM Dia

T Nuts (For Securing the Material) – 10

ER20/32-M Type Spanner with Rubber Grip – 1

3 Meter Parallel Port Cable – 1

Stock Mounting Bolts & Nuts – 8 Pcs

Composite Stock Holders – 4 Pcs

All 4 Axis Machines will ship with a fully assembled computer (AMD/Intel) & 22inch Full HD Monitor - preconfigured with LinuxCNC on Debian Linux



Laser/CNC Combo MACHINES

BUILD AREA

400 x 300 MM

15 x 12 IN

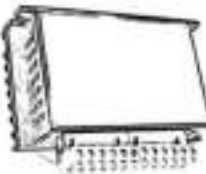
1.3 x 1 FEET

Laser & CNC Combo Machine

1.3.1.1 CXC3 – Meteor

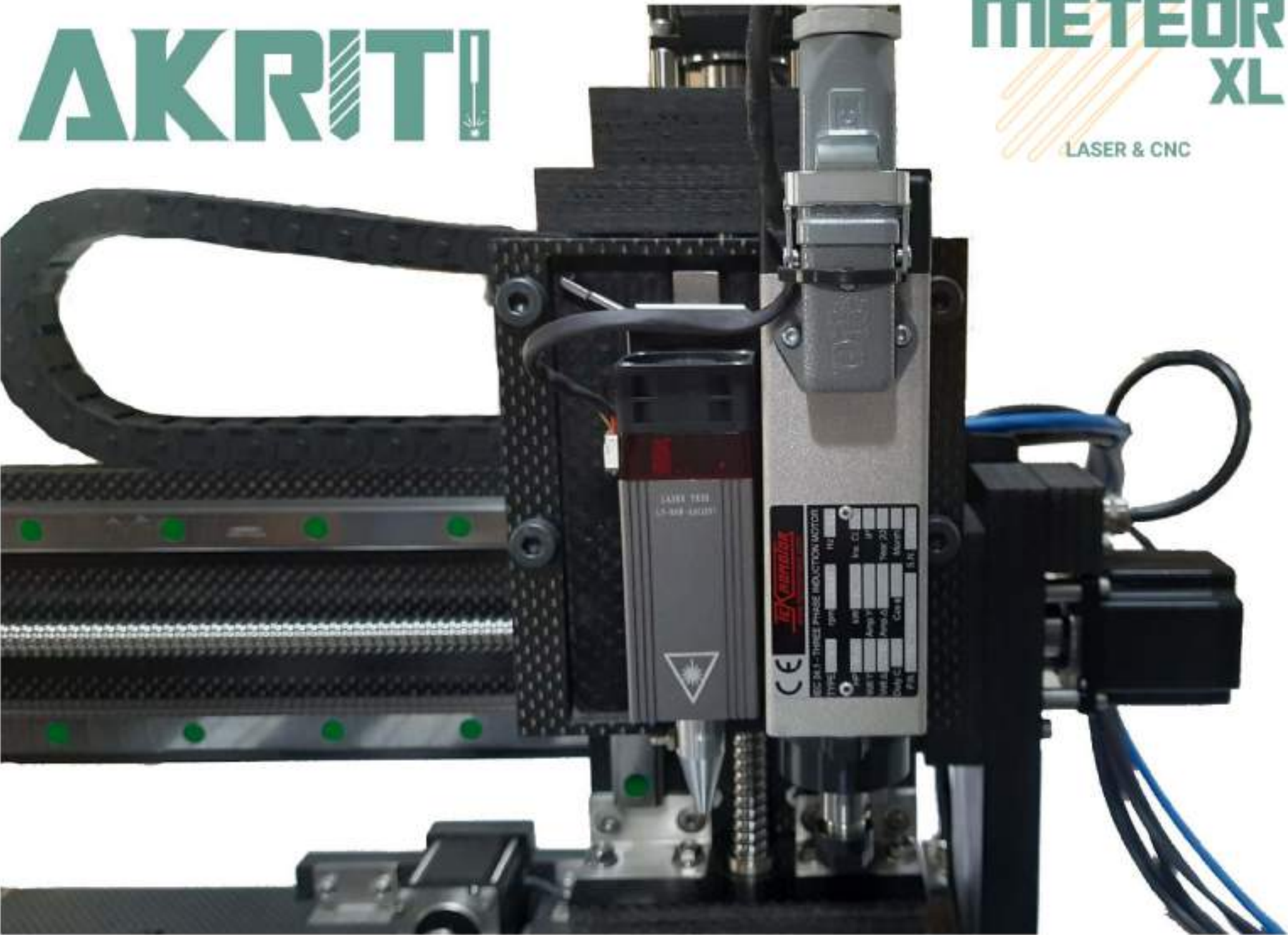


External Dimensions 700 (L) x 700 (W) x 450 (H) (MM)
Build Area Dimensions **400 (L) x 300 (W) x 100 (H) (MM)**
Electronics Board Size 360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis 5 Meters / Minute
Travel Speed Z Axis 5 Meters / Minute

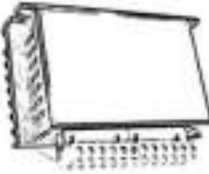
Spindle  Teknomotor RPM 18000 0.73 KW 3.1 kg / ER16	 10W Optical Laser	Drivers  TinyControls 4.2 Amps, 10 Microsteps	Composite Superstructure
	 Stepper Nema 23 & 24 200 Steps/Rev		Controller Arduino UNO
			Ball Screws & Guides Hiwin

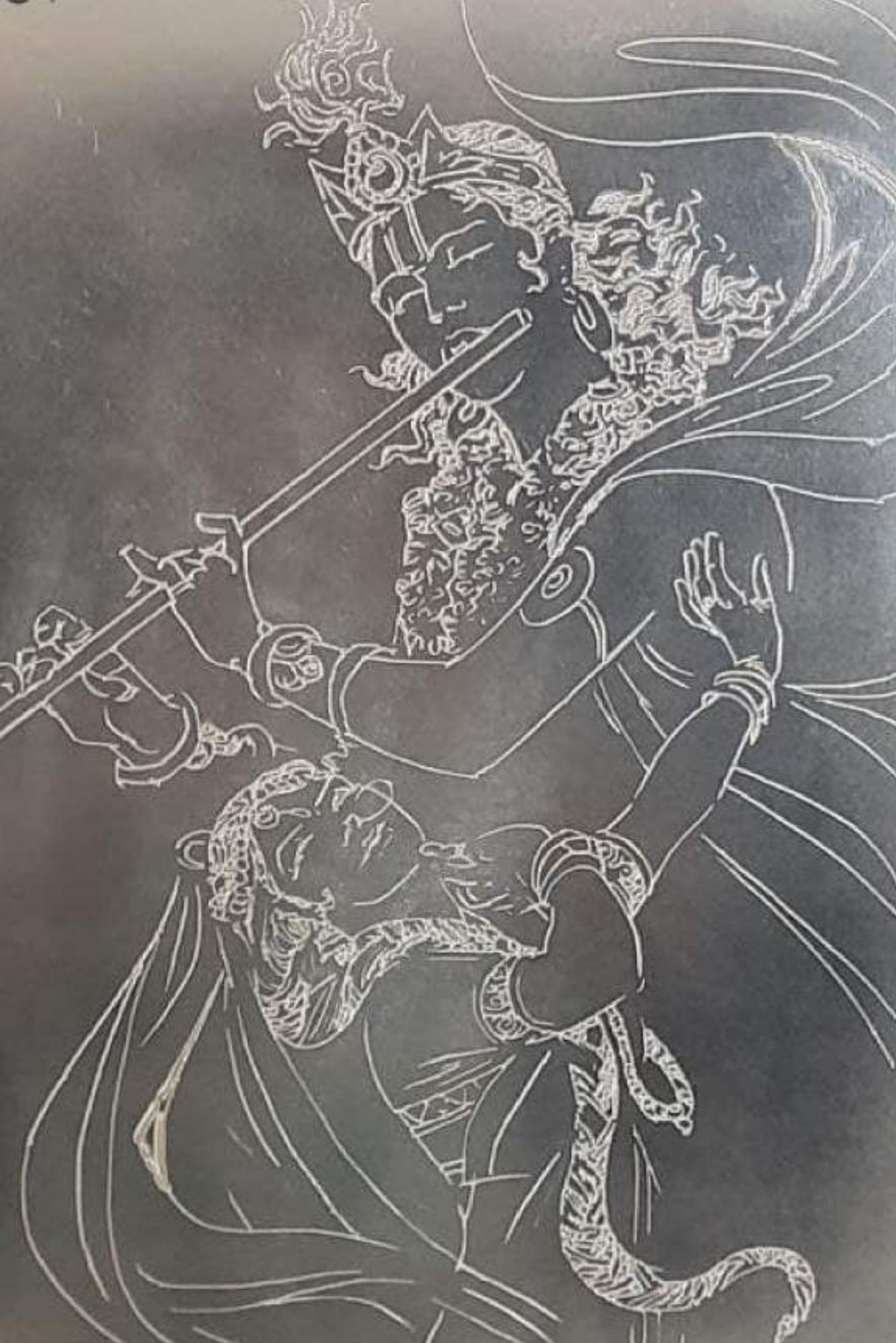
Laser & CNC Combo Machine

1.3.1.2 CXC3 – Meteor XL



External Dimensions	1000 (L) x 800 (W) x 450 (H) (MM)
Build Area Dimensions	<u>600 (L) x 400 (W) x 100 (H) (MM)</u>
Electronics Board Size	360 (L) x 360 (W) x 190 (H) (MM)
Travel Speed X&Y Axis	5 Meters / Minute
Travel Speed Z Axis	5 Meters / Minute

Spindle  Teknomotor RPM 18000 0.73 KW 3.1 kg / ER16	 10W Optical Laser	Drivers  TinyControls 4.2 Amps, 10 Microsteps	Composite Superstructure
	 Stepper Nema 23 & 24 200 Steps/Rev		Controller Arduino UNO
			Ball Screws & Guides Hiwin



3 AXIS CONTROLLER OPTIONS

Controller	Connector	Control Software	Made In
			Italy
Parallel Port Breakout Board	Parallel Port 		India
Handheld Controller 	Serial Port 	Integrated	India
Ethernet Controller	Ethernet Port 	UCCNC  Windows 7/8/10 Only	Hungary

4 AXIS CONTROLLER OPTIONS

Controller	Connector	Control Software	Made In
Parallel Port Breakout Board	Parallel Port 		India
Handheld Controller 	Serial Port 	Integrated	India
Ethernet Controller	Ethernet Port 	UCCNC  Windows 7/8/10 Only	Hungary

CONTROL PC OPTIONS

Raspberry Pi 400 Mini PC kit

3 Axis Only

*Monitor not Included



Intel/AMD PC with 22" FHD Monitor

3 & 4 Axis

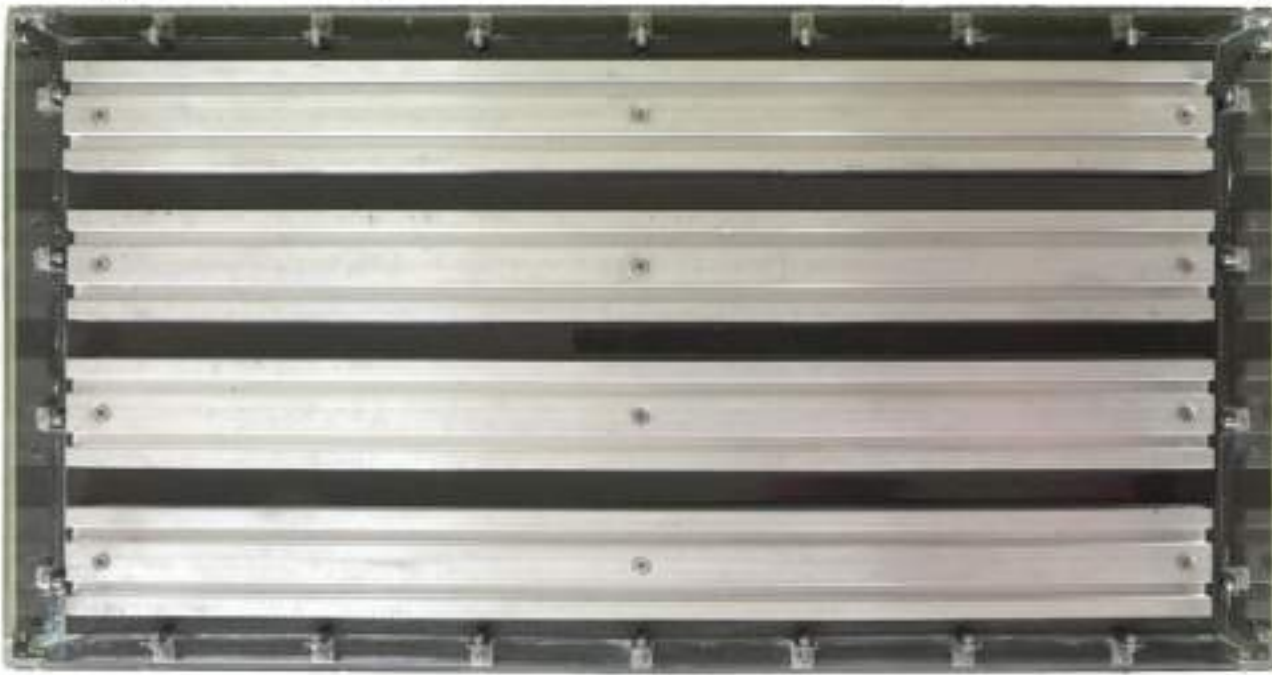
- Intel/AMD Processor
 - (10th Gen / Zen 3 or Greater)
- MB with Onboard Graphics
- 120GB SATA SSD
- PHILIPS 21.5" LCD Monitor
 - (If Available or Siimilar)
- 8GB DDR4 x 2 PCS RAM
- 500W Power Supply
- USB wired Keyboard & Mouse
- Micro ATX Cabinet with USB3.0
- Parallel Port Expansion Card
 - (If Selected as the controller)





CNC ACCESSORIES

2.1 CXC Waterbath – recommended for use only with pneumatically sealed spindles



WATERBATH

20 MM Composite
Base Plate

Aluminium Profiles

Acrylic Walls –
Silicon Sealed



Sizes Available

- 1) 600 x 400 Build Area, height – 60 MM
- 2) 900 x 600 Build Area, height – 60 MM
- 3) 1520 x 900 Build Area, height – 60 MM

* Height can be customized



2.2 Control & Design Desktop PC's – Debian Linux

Control PC Options



Raspberry Pi 400 Kit

With our custom image you will be able to control any 3 Axis CNC Machines from Akriti Precision Systems.

An extremely cost effective and open source option that comes with a 22 inch Monitor from Philips



Debian Linux PC

With our custom Debian Linux PC and the installed parallel port allows you to control our 4 Axis CNC Machines.

An extremely cost effective and open source option that comes with a 22 inch Monitor from Philips

Design PC Options



Debian Linux PC w/ Graphics Card

With our custom Debian Linux PC and the installed parallel port allows you to control our 4 Axis CNC Machines.

It comes with a 22 inch Monitor from Philips and comes preinstalled with FreeCAD software and documentation.

2.3 Handheld Controllers – 4 Axis



Manufacturer - TinyControls, India

CNC motion controller is a G-code programmable controller with step and direction outputs for stepper drivers.

The three axes are X, Y and Z are linear whereas the 4th axis is rotary.

2.4 Collets & Bit Sets



**ER 16 COLLET SET
WITH STORAGE BOX**



**ER 20 COLLET SET
WITH STORAGE BOX**



**ER 25 COLLET SET
WITH STORAGE BOX**



BIT KIT

**A SET OF 8
CAREFULLY SELECTED
HIGH QUALITY BITS**

Order for custom quantities & sizes can also be taken on demand.



CNC UPGRADE OPTIONS

3.1 Spindle Motor Upgrades



Single Bearing 0.73 KW
to
Double Bearing 1.1 KW



Non-Ceramic 2.2 KW
to
Ceramic 2.2 KW



Any 2.2 KW (Ceramic/Non-Ceramic)
to
Ceramic 6 KW

3.2 Stepper Motor Upgrades



NEMA (23/24/34)
Stepper Motors
to
All Servo Motor Setup
Clearpath USA
- 3Y Warranty



EXTENDED WARRANTIES

4.1 1 Year Options – Remote Repair

With our 1 Year Extended Warranty you get peace of mind for 1 year

All parts shipped with the machine qualify for replacement

Extensive Video & Online Help Content is available.

If required, support over video call can also be provided.

4.2 3 Year Options – Remote Repair

With our 3 Year Extended Warranty options you get peace of mind for 3 years at a time.

All parts shipped with the machine qualify for replacement

Extensive Video & Online Help Content is available.

If required, video call support can also be provided to assist.

- * Limited number of parts will be replaced each year
- * The Composite Superstructure carries a 10 year warranty
- * Please read the terms & conditions on our website for more details
- * Parts should not have any external damage or be used beyond manufacturer specifications
- * Warranty can be extended for a total of 6 years only after expiration of 1st Year's of warranty

OFFICIAL DEALERS OF

TEKNO MOTOR

MADE IN ITALY. MADE BY US.

5.1 MTC Teknomotor Spindles



Single & Double Bearing MTC Spindles

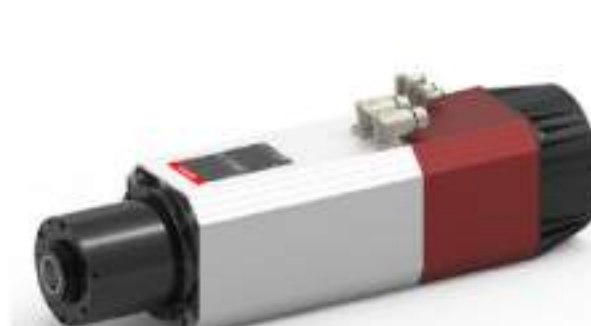


0.73 KW to 6 KW Options in Stock

5.2 QTC & ATC Teknomotor Spindles



ATC 41



ATC 71



Orders on Request

* Minimum Order Quantity - 5 Units - If models are not available locally

MATERIALS

WOOD

SPINDLES FOR WOOD

ALUMINUM

SPINDLES FOR ALUMINUM

PVC / PLASTIC

SPINDLES FOR PVC / PLASTIC

COMPOSITES

SPINDLES FOR COMPOSITES

APPLICATIONS

CNC MACHINES & ROUTERS

SOLUTIONS FOR A WIDE RANGE OF INDUSTRIES

EDGEBANDING MACHINES

TRUE WOODWORKER SPINDLES

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CONTACT INFORMATION

Tapan Chaudhary
Founder & Co-Owner

tapan@akriti.tech

George Augustine
Founder & Co-Owner

george@akriti.tech

Jones Augustine
Founder & Co-Owner

jones@akriti.tech

contact@akriti.tech

support@akriti.tech

WWW.AKRITI.TECH



+91 90190 54837

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