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DIGIMA DC 63CNC mandrel bender





CNC Mandrel Tube Bender

63CNC Mandrel Tube Bender

Professional CNC machine for precise bending of metal tubes and profiles

CNC Mandrel Tube Bender 63CNC is a professional machine designed for precise bending of metal tubes and profiles in both serial and individual production. The machine is suitable for the automotive, furniture, construction and installation industries, as well as for manufacturing components from steel, stainless steel, aluminium, brass and titanium.

The machine enables highly accurate repeatable bends, reduces material waste and improves the quality of finished parts. PLC control with a touchscreen allows operating parameters to be set, programs to be saved and the bending process to be monitored.

Ø63 × 3 Maximum bending capacity for mild steel

R300 Maximum bending radius

4200 mm Tube travel length when operating with a mandrel

500 Maximum number of stored programs

63CNC – automatic X, Y and Z axes for repeatable tube bending.

The X feed axis and Z rotation axis are servo-driven, while the Y bending axis operates automatically through the hydraulic system, providing force and stability during machining.

Product gallery

6 photos in the 63CNC bender gallery

Below are six placeholders for documentation photos: the machine view, equipment, bending examples, tooling, the control panel and working details.



General machine view CNC Mandrel Tube Bender 63CNC

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PLC control panel Touchscreen and program storage



Bending tools Forms, dies and working components



Bending examples Tube details and metal profiles

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Working area Bending, clamping and feeding mechanism



Machine components Hydraulics, servo drives and control
Working axes

Automatic X, Y and Z axes

The 63CNC bender uses an axis system that enables automation of the bending process. The X feed axis moves the material, the Y bending axis performs the bend, and the Z rotation axis positions the tube or



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profile at the required angle.

X Automatic servo-driven feed axis. Responsible for precise material positioning.

Y Automatic hydraulic bending axis. Provides high force and stability during machining.

Z Automatic servo-driven rotation axis. Allows the material to rotate between successive bends.

Bending tools

Forms, dies and working components

Tools are selected according to the tube outer diameter, bending radius, wall thickness, bending angle and process requirements.

01

Bending die

Selected according to the tube outer diameter and the tube centreline radius (CLR).

02

Clamp die

Selected based on the tube outer diameter and matched to the bending die.

03

Pressure die

Matched to the tube outer diameter and the bending die centreline radius (CLR).

04

Optional mandrel

Recommended for small radii and thinner walls. Helps reduce deformation of the tube cross-section.

05

Wiper die

Used with a ball mandrel; recommended for small bending radii and thin walls.

06



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Clamping sleeve

Selected for the tube outer diameter and used exclusively in CNC machines.

Model characteristics

Key standard equipment features

Control and programming

- Interactive PLC touchscreen.
- Easy access to automatic and manual operating modes.
- System diagnostics and multilingual support.
- Memory for up to 500 program sets.
- Up to 20 bends for each program.
- Programmable bending, feeding and rotation-axis speeds.
- Programmable material springback settings for each bending angle.

Hydraulics and bending quality

- Standard clockwise bending direction.
- Fully hydraulic clamping on the clamp die and pressure die.
- Hydraulic drop and levelling clamp.
- Direct-acting hydraulic pressure die.
- Automatic tube release before final bending.
- Pre-set mandrel retraction for bending quality.
- Automatic mandrel lubrication.

Applications

Where is the 63CNC mandrel tube bender suitable?

A

Automotive industry

Production of tubes, lines, frame components, exhaust systems and tubular structures.

B

Furniture industry

Bending steel, aluminium and stainless-steel components for furniture structures and frames.



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C

Structural fabrication

Producing repeatable bends in profiles, tubes and technical parts in serial production.

D

Industrial installations

Bending process tubes, installation pipes and components for manufacturing plants.

E

Stainless steel and aluminium

Processing materials that require repeatability, aesthetics and bending accuracy.

F

Individual production

Creating short series, prototypes and components with complex bending shapes.

Components

Hydraulic and electronic system configuration

Name	Brand	Supplier
Hydraulic motor	Nantong Fareast / Wuxi Taihu	Nantong Fareast / Wuxi Taihu
Directional solenoid valve	Yuken	Yuci Yuken
Relief valve	Yuken	Yuci Yuken
Feed servo motor	Mitsubishi Electric	Japan Mitsubishi
Feed servo controller	Mitsubishi Electric	Japan Mitsubishi
Rotation servo motor	Mitsubishi Electric	Japan Mitsubishi
Rotation servo controller	Mitsubishi Electric	Japan Mitsubishi
PLC	Mitsubishi Electric	Japan Mitsubishi
Touchscreen	Weinview	Taiwan Weinview
Linear guideway	HIWIN	Taiwan HIWIN
Contactora	Schneider Electric	France Schneider
Thermal overload relay	Schneider Electric	France Schneider
Power switch	Meanwell	China Taiwan Meanwell



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Technical parameters

Technical specifications of the 63CNC bender

Parameter	Unit	Value
Model	-	63CNC Mandrel Tube Bender
Maximum bending capacity – mild-steel round tube	mm	Ø63 × 3
Maximum bending capacity – stainless steel	mm	Ø50.8 × 1.5 / 1.5D
Maximum bending radius	mm	R300, can be customised to customer requirements
Minimum bending radius	mm	R25
Maximum working tube travel length with mandrel	mm	4200, can be customised to customer requirements
Maximum single-feed material length	mm	3000, can be customised to customer requirements
Maximum bending angle	°	190
Number of bending units	szt.	32
Bending axis speed	deg/s	65, adjustable
Bending axis accuracy	mm	±0.1
Bending axis power	kW	7.5, hydraulically controlled
Feed axis speed	mm/s	800, adjustable
Feed axis accuracy	mm	±0.1
Feed axis power	kW	1.5, servo-motor controlled
Rotation axis speed	deg/s	180, adjustable
Rotation axis accuracy	mm	±0.1
Rotation axis power	kW	0.75, servo-motor controlled
Hydraulic pump motor power	kW	7.5
Data input	-	X, Y, Z coordinates and Y, B, C working values
Maximum pressure	MPa	16, regulowane
Oil tank	L	approximately 220
Maximum number of stored programs	grup	500, can be customised to customer requirements
Machine dimensions	mm	4800 × 1000 × 1350
Weight	kg	2800

Commercial information



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Price, delivery, warranty and order terms

Item	Information
Net price	PLN 138,000 net
Die included	Die for 33.7 × 3.6 mm, CLR 90 mm
Additional die cost	PLN 4,000 net
Order terms	30% advance payment, 70% before delivery
Warranty	12 months
Delivery	The price includes delivery to the customer
Lead time	approximately 3 months
Documentation	Machine and control system operating manuals in Polish, plus CE certificate
Training	Operator training included in the price, covering 1 working day