

CNC BENDING MACHINE

— 2026 —



ROLL BENDING
TUBE BENDING
STRETCH BENDING
FREE BENDING

高谱[®]

Company Profile

G Clef Bending is established in 2012, specialized in providing profile bending solutions for customers all over the world.

Our business range covers roll bending, stretch bending, tube bending and free bending machines which is mainly applied in electric vehicles and aerospace.

Company Business Philosophy

Core Mission: Create more of the art of bending in this world!

Core Values: Integrity management, specialized technology and always be diligent!

Stability makes high efficiency !

The most important thing is to improve the consistence of the bending profiles and not relying on any operating experience.

Factors that affecting the stability of bending profiles:

unstable material properties, temperature, skill of operator and the performance of the machine.

Machine should adapt to above factors and output stable products to create more values for the users.

G-CNC-A12T

2D/3D Profile Bending Machine



● Technical Data

Hydraulic Power: 12T
Y/Z-axis Repositioning Accuracy: 0.01mm
Y/Z-axis Stroke:165/100mm
Shaft Diameter: 50mm
Shaft Length: 180mm
Torque: 1700N.m
X-shaft Distance: 180-380mm
Individual Roller Speed: 1-20rpm, CVT
Roller Drive: Asynchronous motor
Power Supply: 3-Phase, 380V, 50Hz, 8.8KVA
Weight:1000Kg
Dimension(L*W*H):1400*675*1360mm



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

Profile max cross-sectional area: 60*60*3mm.

Min. bending radius: section height* 5-8.



G-CNC-A20T

2D/3D Profile Bending Machine



● Technical Data

Hydraulic Power: 20T
Y/Z/U-axis Repositioning Accuracy: $\leq 0.01\text{mm}$
Y/Z/U-axis Stroke: 220/60mm
Shaft Diameter: 80mm
Shaft Length: 370mm
Upper/Lower Roller Torque: 1500/480N.m
X-shaft Distance: 240-590mm
Individual Roller Speed: 0-14rpm, CVT
Roller Drive: Servo motor
Power Supply: 3-Phase, 380V, 50Hz, 10.5KVA
Weight: 2400Kg
Dimension(L*W*H): 1824*1150*1640mm



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

Profile max cross-sectional area: 100*100*3mm.

Min.bending radius: section height* 5-8.



G-CNC-A30T

2D/3D Profile Bending Machine



• Technical Data

Hydraulic Power: 30T
Y/Z-axis Repositioning Accuracy: 0.01mm
Y/Z-axis Stroke: 300/100mm
Shaft Diameter: 105mm
Shaft Length: 325mm
Torque: 7100N.m
X-shaft Distance: 296-776mm
Individual Roller Speed: 1-15rpm, CVT
Roller Drive: Servo hydraulic motor
Power Supply: 3-Phase, 380V, 50Hz, 20KVA
Weight: 2300Kg
Dimension(L*W*H): 1665*1250*1750mm



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

Profile max cross-sectional area: 100*100*3mm.

Min.bending radius: section height* 5-8.



G-CNC-A45T

2D/3D Profile Bending Machine



• Technical Data

- Hydraulic Power: 45T
- Y/Z-axis Repositioning Accuracy: 0.01mm
- Y/Z-axis Stroke: 420/100mm
- Shaft Diameter: 105mm
- Shaft Length: 380mm
- Upper/Lower Roller Torque: 6500/ 3300N.m
- X-shaft Distance: 387-807mm
- Individual Roller Speed: 1-10rpm, CVT
- Roller Drive: Servo hydraulic motor
- Power Supply: 3-Phase, 380V, 50Hz, 38.5KVA
- Weight: 3500Kg
- Dimension(L*W*H): 1970*1300*2200mm



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

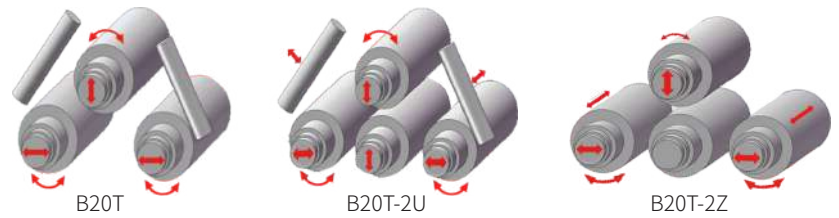
Profile max cross-sectional area: 220*120*3mm.

Min. bending radius: section height* 5-8.



G-CNC-B20T

2D/3D Profile Bending Machine



• Technical Data

- Hydraulic Power: 20T
- Y/U-axis Repositioning Accuracy: 0.01mm
- Y/U-axis Stroke: 255/100mm
- Shaft Diameter: 80mm
- Shaft Length: 250mm
- Torque: 3396N.m
- X-shaft Distance: 278-538mm
- Individual Roller Speed: 0-14rpm, CVT
- Roller Drive: Servo motor
- Power Supply: 3-Phase, 380V, 50Hz, 10.3KVA
- Weight: 1200Kg
- Dimension(L*W*H): 1249*1134*1432mm



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

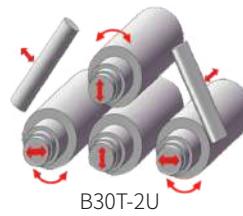
Profile max cross-sectional area: 80*80*3mm.

Min. bending radius: section height* 5-8.



G-CNC-B30T

2D/3D Profile Bending Machine



• Technical Data

- Hydraulic Power: Max 30T
- Y/U-axis Repositioning Accuracy: 0.01mm
- Y/U-axis Stroke: 330/100mm
- Shaft Diameter: 80mm
- Torque: 6600N.m(upper/lower roller: 3400/1600N.m)
- Shaft Length: 315mm
- X-shaft Distance: 280-762mm
- Individual Roller Speed: 1-14rpm, CVT
- Roller Drive: Servo hydraulic motor
- Power Supply: 3-Phase, 380V, 50Hz, 20KVA
- Weight: 2400Kg
- Dimension(L*W*H): 1575*1400*950mm



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

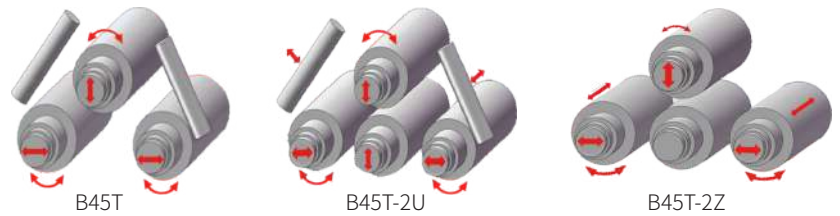
Profile max cross-sectional area: 100*100*3mm.

Min. bending radius: section height* 5-8.



G-CNC-B45T

2D/3D Profile Bending Machine



● Technical Data

- Hydraulic Power: 45T
- Y/U-axis Repositioning Accuracy: 0.01mm
- Y/U-axis Stroke: 500/150mm
- Shaft Diameter: 105mm
- Shaft Length: 330mm
- Torque: 12000N.m
- X-shaft Distance: 400-1510mm
- Individual Roller Speed: 1-10rpm, CVT
- Roller Drive: Servo hydraulic motor
- Power Supply: 3-Phase, 380V, 50Hz, 31KVA
- Weight: 3000Kg
- Dimension(L*W*H): 2170*2075*1800mm



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

Profile max cross-sectional area: 150*100*3mm.

Min. bending radius: section height* 5-8.

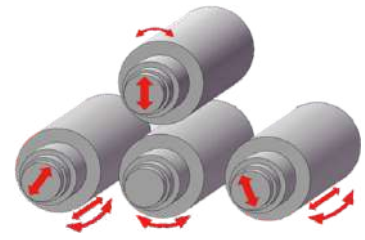


G-CNC-F25T

3D Profile Bending Machine

• Technical Data

Hydraulic Power: 25T
1-9 Shaft Repositioning Accuracy: 0.01mm
Individual Roller Speed: 1-11rpm, CVT
Shaft Diameter: 100mm
Shaft Length: 220mm
Roller Drive: 15KW
Torque: 5510N.m
Power Supply: 3-Phase, 380V, 50Hz, 21KVA
Weight: 4800Kg
Dimension(L*W*H): 2700*2200*2200mm



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace and ships.

Profile max cross-sectional area: 80*80*3mm.

Min. bending radius: section height * 5-8.

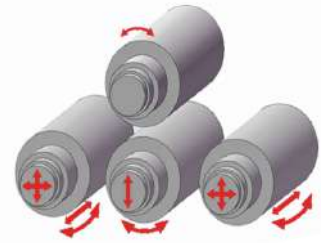


G-CNC-X25T

14 Axis 3D Profile Bending Machine

● Technical Data

- Hydraulic Power: 25T
- Profile cross-sectional area: 85x85mm (Max.)
- Axis Repositioning Accuracy : $\pm 0.01\text{mm}$
- Upper/Lower Roller Torque: 5000/3500N.m
- Upper/Lower Shaft Diameter: 110/80mm
- Shaft Length: 220mm
- X1 Stroke: 170mm
- X2, X3 Stroke: 200mm
- X4, X5 Roll Speed: 0-10rpm, Servo control
- X6, X7 Stroke: 80mm
- X8, X9 Stroke: 150mm, Angle $\pm 15^\circ$
- X10-X14 Anti-twist Device: In/Out stroke 60mm, L/R stroke 150mm, Lifting stroke 150mm, Swing angle $\pm 90^\circ$, Rotate angle $\pm 360^\circ$



Product Showcase



Code Jump

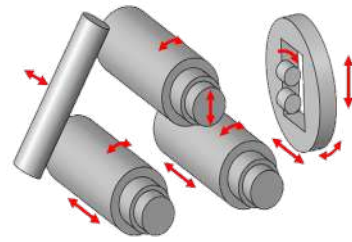
Application and Bending Capacity

Electric vehicles, rail transportation, aerospace and ships.



G-CNC-T30T

3D Profile Bending Machine



● Technical Data

Hydraulic Power: $\leq 35T$
Axis Repositioning Accuracy: $\leq 0.03mm$
Upper/Lower Roller Torque: 3200/1600N.m
shaft Distance: 310-910mm
Shaft Length: 220mm
X1, X3 Roll Speed: 0-10rpm, Servo control
X4 Y Axis Stroke: 400mm
X5, X6 X Axis Lifting: 40mm
X7 Support Roller Lifting: 140mm
X8-X11 Anti-twist Device: In/Out stroke 230mm,
Lifting stroke 225mm,
Swing angle 60° ,
Rotate angle 360°



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

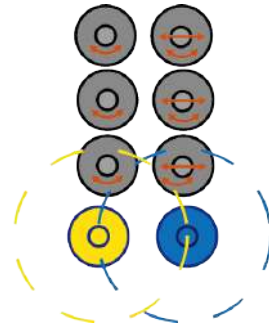


G-CNC-Y08T

2D Profile Bending Machine

● Technical Data

Hydraulic Power: 8T
Profile cross-sectional area: 50*50mm (Max.)
Repositioning Accuracy: 0.01mm
Shaft Diameter: 35mm
Shaft Length: 82mm
Swing Angle: $\pm 100^\circ$
Bending Roller Stroke: 160mm
Torque: 2350 N.m
Dimension(L*W*H): 2237*1630*1784mm



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

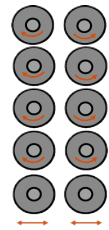


G-CNC-S10T-S

Profile Reversal Bending Machine

● Technical Data

- Hydraulic Power: 10T
- Profile cross-sectional area: 50*50mm (Max.)
- Repositioning Accuracy: 0.01mm
- Shaft Diameter: 40mm
- Shaft Length: 80mm
- Bending Roller Stroke: 260mm

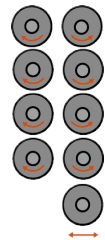


G-CNC-S10T-D

Profile Bending Machine

● Technical Data

- Hydraulic Power: 5T
- Profile cross-sectional area: 50*50mm (Max.)
- Repositioning Accuracy: 0.01mm
- Shaft Diameter: 35mm
- Shaft Length: 55mm
- Bending Roller Stroke: 80mm



Product Showcase

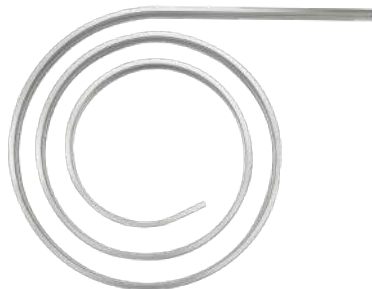
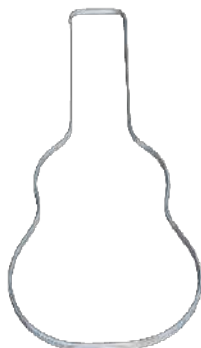


Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.

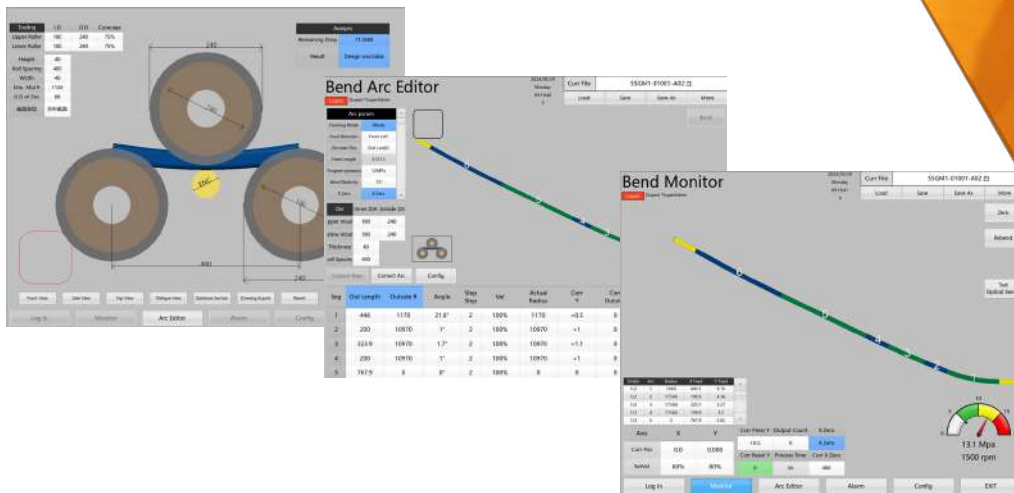
Profile max cross-sectional area: 50*50*3mm.
Min. arc radius: section height * 5-8.



Operation System PC10

Independent Research and Development

1. Input CAD or STP drawing to generate program automatically.
2. Very easy to achieve the desired arc radius by entering values accordingly.
3. One-time or multiple bending for Von Karman curve, ellipse and spiral creation.
4. Bending system can be operated offline and connected to the EMS system.
5. 17-inch touch screen, friendly and succinct Man-machine dialogue interface.



Arc Meter ARC50

Radius measuring tool



Model No.	Min.Radius	Max.Radius
ARC50/130	92mm	2000mm
ARC50/300	457mm	11000mm
ARC50/500	1257mm	30000mm

GR-CNC-A50D

12-axis CNC Tube Bending Machine

• Technical Data

Bending Capacity: $\phi 50 \times 3\text{mm}$

Bending Way: 1. single radius with single layer tooling
2. multi-radius with single layer tooling (like ellipse)
3. Eccentric bending

Bending Radius: max: unlimited, min: 2 times of profile diameter

Bending Angle: any

Tube Feeding Length: 3500mm

File Storage Capacity: over 10,000,000 programs

Programming: 1. Input DXF or STP drawing
2. Enter values accordingly



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.



GR-CNC-A89D

12-Axis Profile Tube Bending Machine

• Technical Data

Bending Capacity: $\phi 89 \times 3 \text{mm}$

Bending Way: 1. single radius with single layer tooling

2. multi-radius with single layer tooling (like ellipse)

3. Eccentric bending

Bending Radius: max: unlimited, min: 2 times of profile diameter

Bending Angle: any

Tube Feeding Length: 3500mm

File Storage Capacity: over 10,000,000 programs

Programming: 1. Input DXF or STP drawing

2. Enter values accordingly



Product Showcase



Code Jump

Application and Bending Capacity

Electric vehicles, rail transportation, escalators, aerospace, lighting, furniture, doors and windows, curtain wall, bathroom hardware and fitness equipment.



GR-CNC-A114D

12-Axis Profile Tube Bending Machine



Product Showcase



Code Jump

Application and Bending Capacity

Medical apparatus and instruments, rail transportation, aerospace and ships.

Cross-sectional area: 270*122*21mm



Cross-sectional area: 135*110*15.5mm



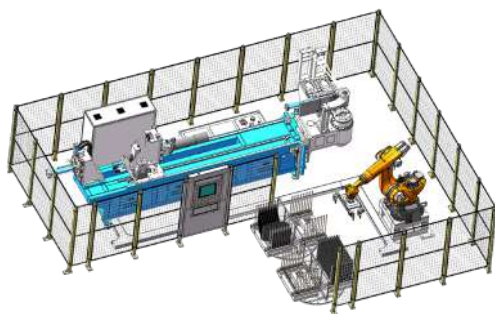
Axis Parameter(GR-CNC-A89D for Ref.)

Servo control, repositioning Accuracy $\leq 0.02\text{mm}$.

*All axes can move independently or linkage in any combination.

Axis	Stroke	Speed	Pressure/Torque
X1, Material Feeding(Y)	$\leq 5200\text{mm}$	$\leq 250\text{mm/s}$	25000N
X2, Material Rotation(B)	$\pm 360^\circ$	$\leq 120^\circ / \text{s}$	500N.m
X3, Bending(C)	190°	$\leq 10^\circ / \text{s}$	31640N.m
X4, Nose Lateral Movement(X)	$\leq 500\text{mm}$	$\leq 80\text{mm/s}$	250000N
X5, Nose Longitudinal Movement(G)	$\leq 500\text{mm}$	$\leq 80\text{mm/s}$	110000N
X6, Bending Die Rotation	Unlimited	$\leq 10^\circ / \text{s}$	1700N.m
X7, Clamp Die	250mm	$\leq 95\text{mm/s}$	500000N
X8, Clamping Pressure Die	250mm	$\leq 95\text{mm/s}$	500000N
X9, Pressure Die Displacement	$\leq 650\text{mm}$	$\leq 250\text{mm/s}$	150000N
X10, Mandrel Displacement	$\leq 600\text{mm}$	$\leq 100\text{mm/s}$	100000N
X11, Vertical Material Supporting Bar	$\leq 200\text{mm}$	$\leq 100\text{mm/s}$	4000N
X12, Tube Clamping	$\leq 20\text{mm}$	$\leq 100\text{mm/s}$	1000N

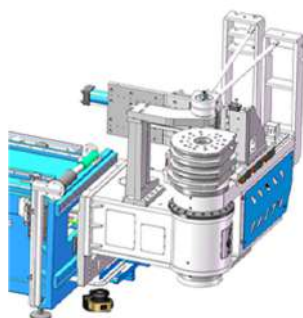
Tube Bending Work Station



3D Digital Scanner



Eccentric Bending Tooling



Checking Fixture



Operation System PC30

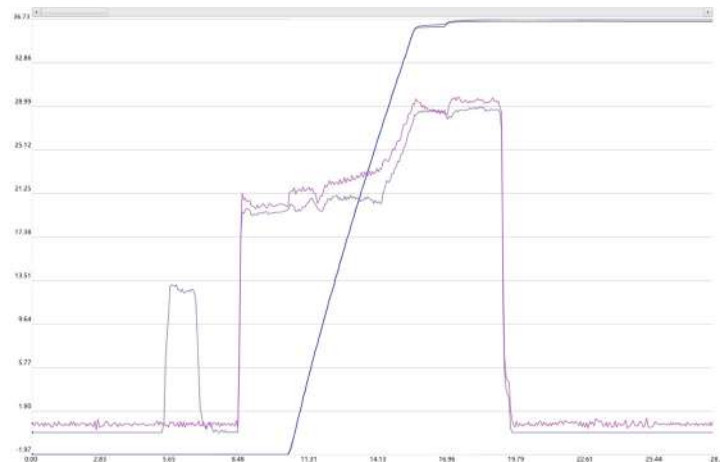
Independent Research and Development

1. 12 axes all driven by servo, all motions are digitalized.
2. Unique Eccentric design for tooling set, multi-radius bending can be finished on a one stack tooling, max arc radius reaches to 5000mm.
3. Clamping pressure feedback in real time.
4. Easy to learn, no experience is required for operators.



Cycle Time Curve

Curve to show all the trends: profile elongation, stretching power, bending angle, working pressure, temperature...



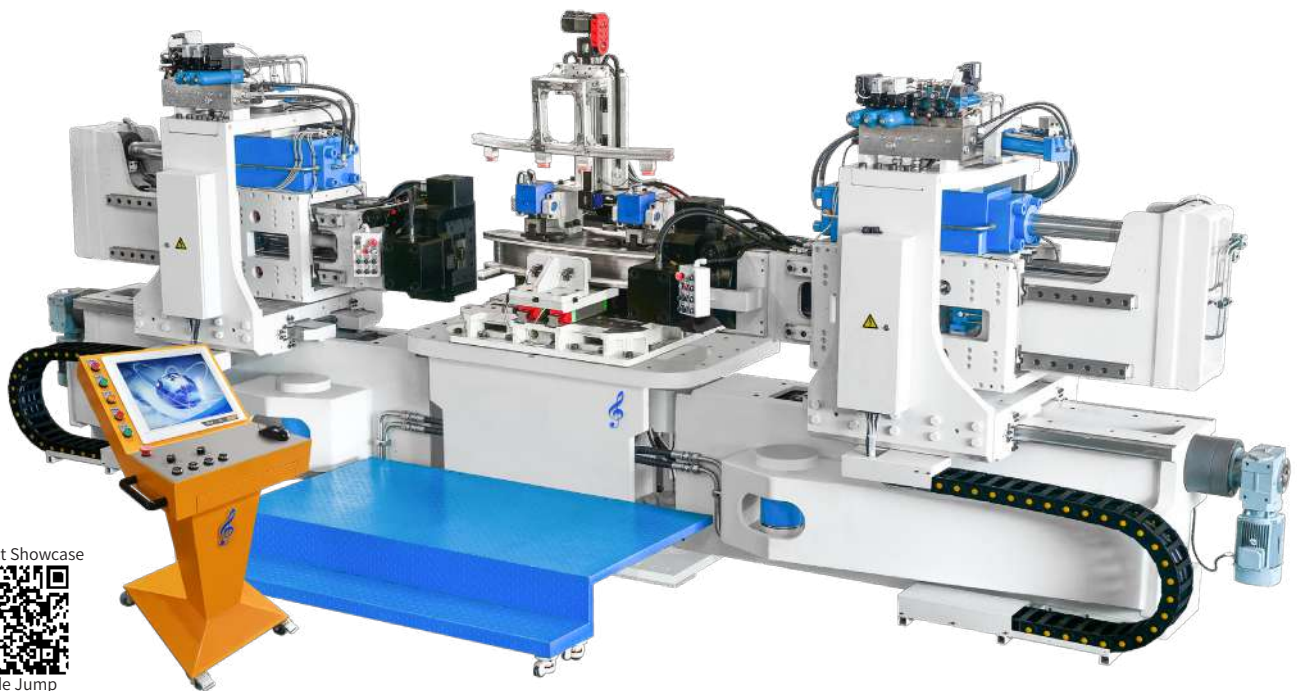
Bumper Beam Stretch Bending Machine

● Technical Data

Model: SFM-CNC-B2D55T-2500
Stretch Power: 35T, 55T, 85T
Max. Profile Length: 1.8m
Position Accuracy: 0.01mm
Controllable Stretch Power: 0.5 to 85T
Jaw Position Reset: Servo control
Mandrel Stroke: 800mm(customizable)

● Production Data

Cycle Time: 35-55s
Qualification Rate: 99%
Tolerance: datum points $<\pm 0.5\text{mm}$, Flatness $<\pm 0.5\text{mm}$
Positioning: End induction or positioning hole by drilling
Clamping Area Length: 30-80mm
Depth of Clamping Scratch: 0.3-0.5mm
Working Time: 7*24h



Application

Bumper beams



Universal Stretch Bending Machine

● Technical Data

Model: SFM-CNC-A2D55T-4500

Stretch Power: 20T, 35T, 55T, 85T, 100T and 120T

Max. Profile Length: 4.5m, 6m, 8.5m, 11m and 13m

Position Accuracy: $\pm 0.01\text{mm}$

Jaw Rotating Torque: 6600N.m

Jaw Lifting Height: 200mm



Product Showcase



Code Jump

Application

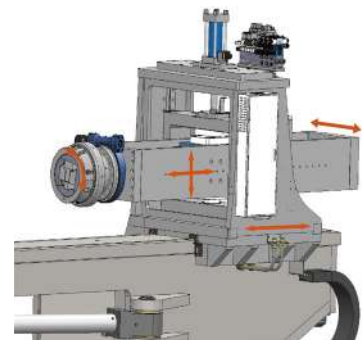
Aerospace, curtain wall and escalator.



Round Jaw



Square Jaw



Frame construction

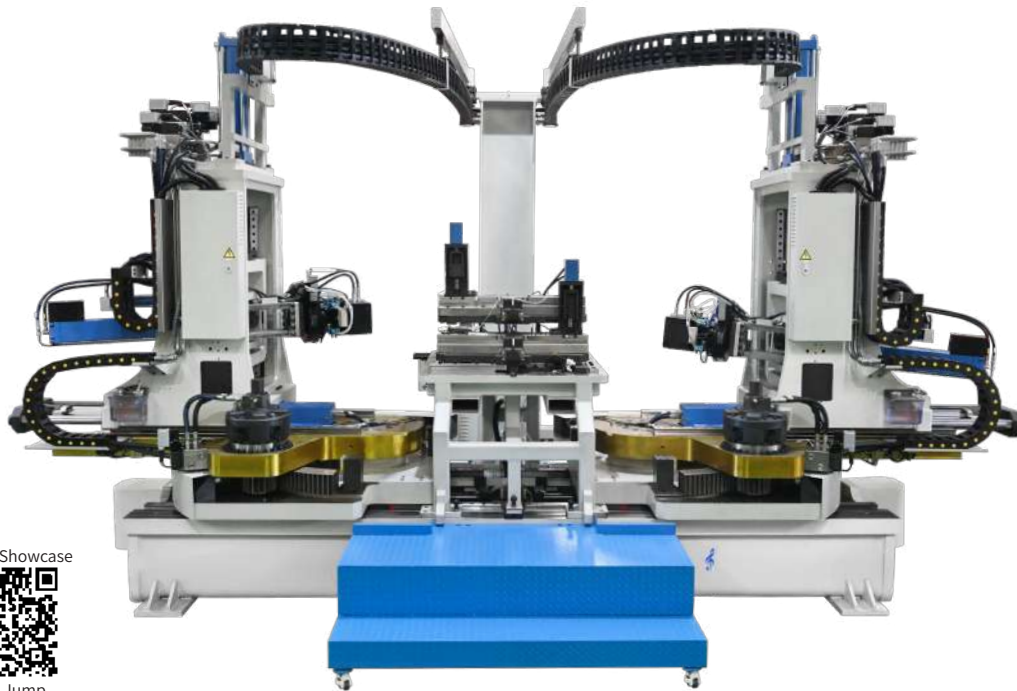
3D Stretch Bending Machine

● Technical Data

Model: SFM-CNC-A3D20T-3500
Stretch Power: 2T, 8T, 20T, 35T
Max. Profile Length: 3m
Position Accuracy: $\pm 0.01\text{mm}$
Controllable Stretch Power: 0.5 to 35 T
Jaw Position Reset: Servo Control
Mandrel Stroke: 800mm (customizable)

● Production Data

Cycle Time: 20-30s
Qualification Rate: 99%
Tolerance: datum points $< \pm 0.5\text{mm}$
Positioning: positioning hole by drilling
Clamping Area Length: 30-50mm
Working Time: 7*24h



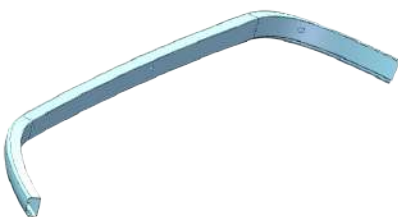
Product Showcase



Code Jump

Application

Electric vehicles and aerospace.



3D Roof Rack

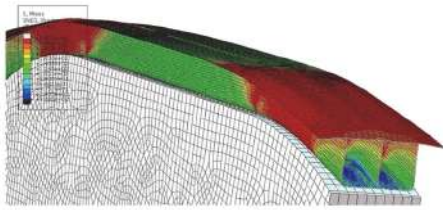


A Pillar

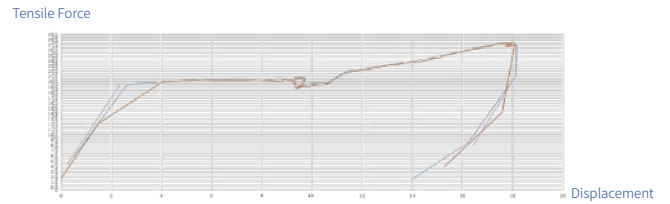


Window Channel

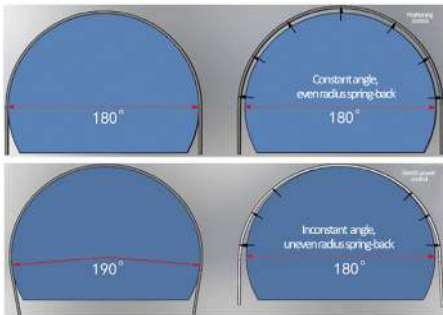
CAE Analysis



Stress-strain Curve

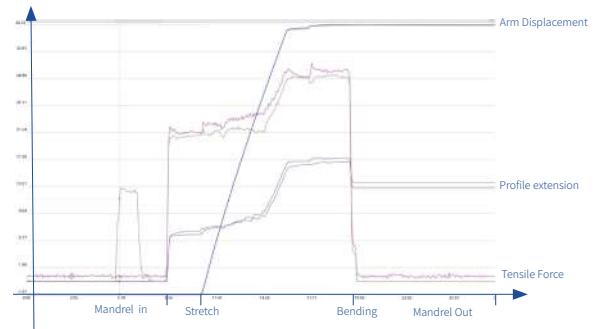


Spring back Control

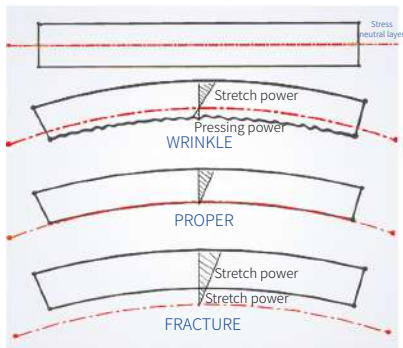


Cycle Time Curve

Changes for profile elongation, bending angle and bending force in a cycle time.

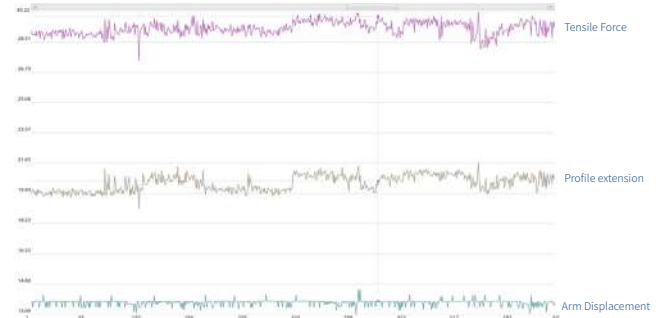


Neutral Line Control



General Trend

The variation pattern of all parameters for machine and profile.



Checking Method

1. Checking fixture for detecting the curvature of profiles



Standard Checking Fixtures

2. Digital inspection, scanning contours and comparing with original files



Handheld 3D Scanner

3. Flexible Coordinate Inspection Tool, High Precision Contact Inspection

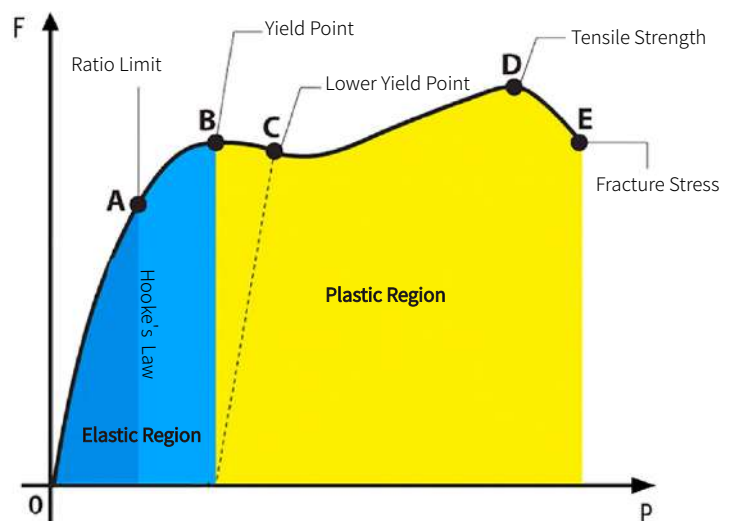
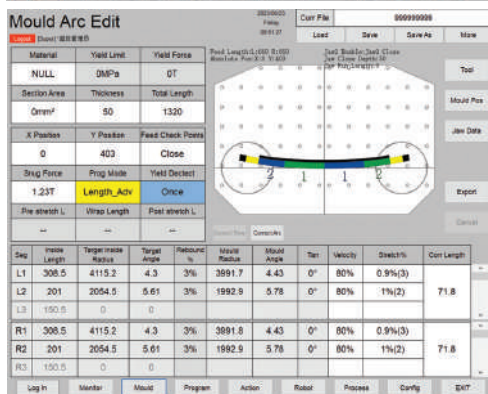
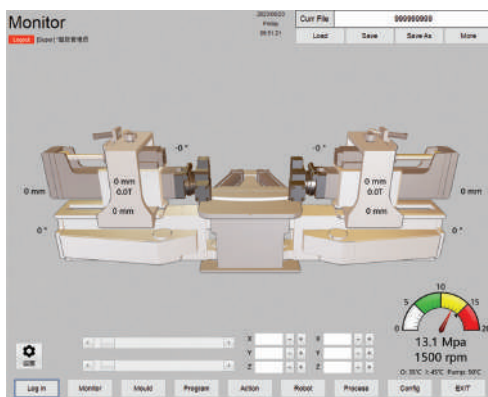


Flexible Coordinate Inspection Tool

Operation System PC20

Independent Research and Development

1. More than 16 axes servo control system to control the tensile force and displacement accurately in real time.
2. Tension mode and displacement mode are both available.
3. The profile yield point is detected automatically and bending parameter is self-adjust.
4. The system is able to read STP drawing and generate tooling parameter automatically.
5. No experience is needed for operator. All bending steps are digitalized and graphical.

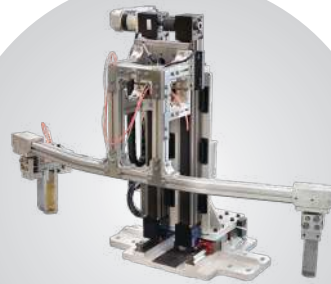


Additional Components

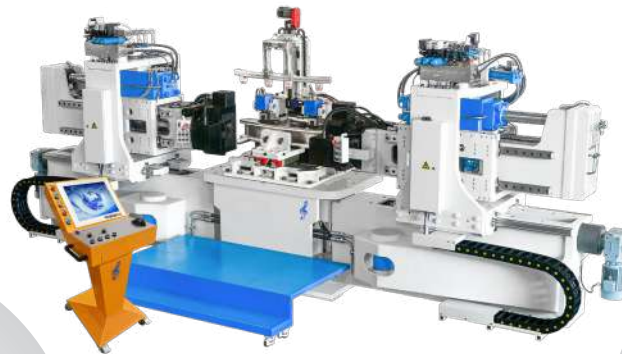
- User can design mould/ tooling independently.
- Tooling as a whole set which can be replaced partially or integrally.
- Tooling deviation can be compensated by adjusting the spring back rate from the program.



Tooling Core



Gripper



Mandrel



Square Jaw



Tooling

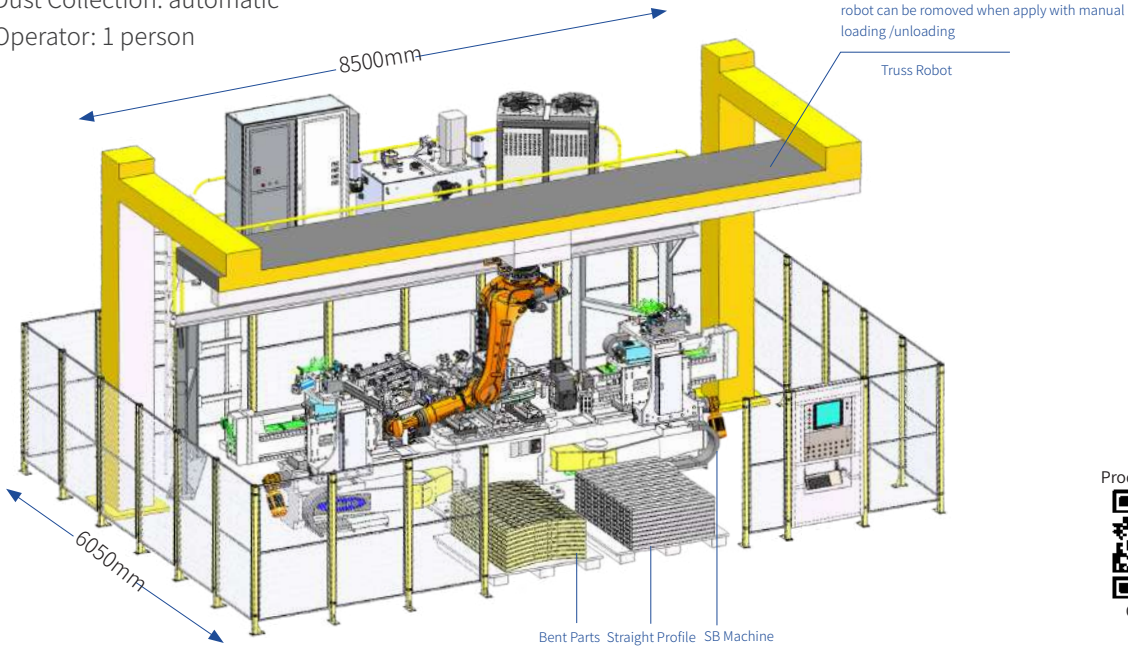
Auto-Mandrel
CNC Drilling
Dust Collection
Reversal Bending

Laser Marking
Profile Automatic Centering
Anti-Proofing

Stretch Bending Work Station

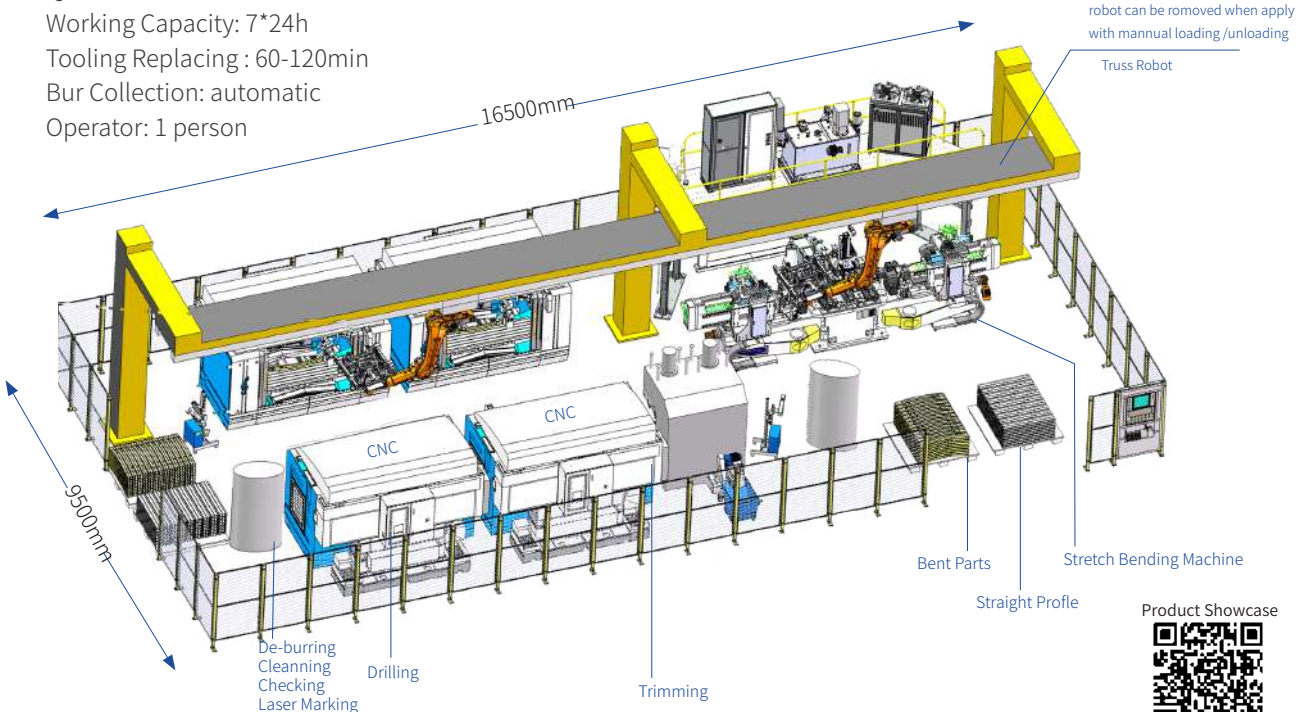
Cycle Time: $\leq 36s$
 Qualification Rate: 99%
 Working Capacity: 7*24h
 Tooling Changing: 60-120min
 Dust Collection: automatic
 Operator: 1 person

1. Compliant with CMK standards
2. Manual or robot loading and unloading are both available



Automotive Bumper Stretch Bending And CNC Drilling Work Station

Compliant with CMK standards
 Cycle Time: $\leq 34s$
 Qualification Rate: 99%
 Working Capacity: 7*24h
 Tooling Replacing : 60-120min
 Bur Collection: automatic
 Operator: 1 person



Free Bending

• Technical Data

Axis Nos.	Spec Model	-30	-60	-90
		Bending Capacity		
3	FB3	φ6-32mm	φ20-60mm	φ50-90mm
5	FB5			
6	FB5			
Power supply	3P 380V	100A	170A	200A
Net Weight		6.2T	9T	12.5T

Min. Bending Radius: 3D (T=3, carbon steel)
 Material: Steel, aluminum profile etc.
 Feeding Speed: 200mm/s
 Bending Angle: ±180°
 Max. Length: 4000mm, 2000-6000mm optional
 Programming: by reading STEP drawing
 Control System: G Clef

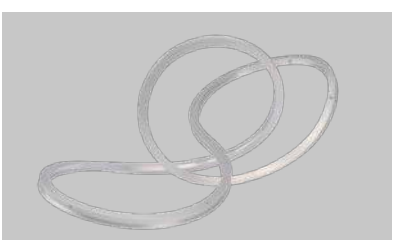
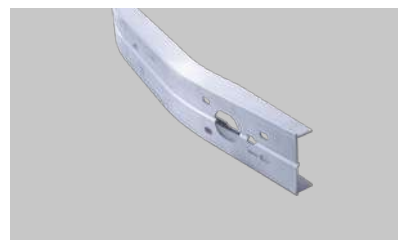
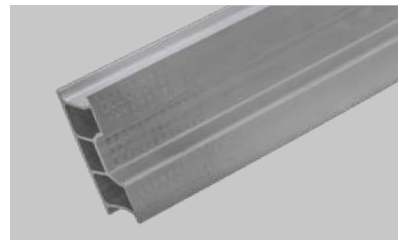
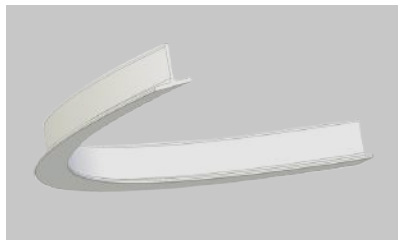
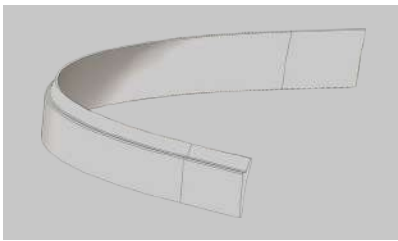


Application

Aerospace, furniture, curtain wall and art decoration.



Sample Showcase



owners

Certificates



Customer List



All logo icons belong to the brand



Registered / Enregistré 11/09/2023

No 018814936

**EUROPEAN UNION INTELLECTUAL PROPERTY
OFFICE
CERTIFICATE OF REGISTRATION**

This Certificate of Registration is hereby issued for the European Union trade mark identified below. The corresponding entries have been recorded in the Register of European Union trade marks.

**OFFICE DE L'UNION EUROPÉENNE POUR LA
PROPRIÉTÉ INTELLECTUELLE
CERTIFICAT D'ENREGISTREMENT**

Le présent Certificat d'Enregistrement est délivré pour la marque de l'Union européenne identifiée ci-joint. Les mentions et les renseignements qui s'y rapportent ont été inscrits au Registre des Marques de l'Union Européenne.



*The Executive Director / Le Directeur
exécutif*

Christian Archambeau



www.euipo.europa.eu

China Guangdong G Clef Bending Technology Co., Ltd

E-mail: info@g-cnc.com

Web: www.g-cnc.com



Production Catalogue

PDF Download