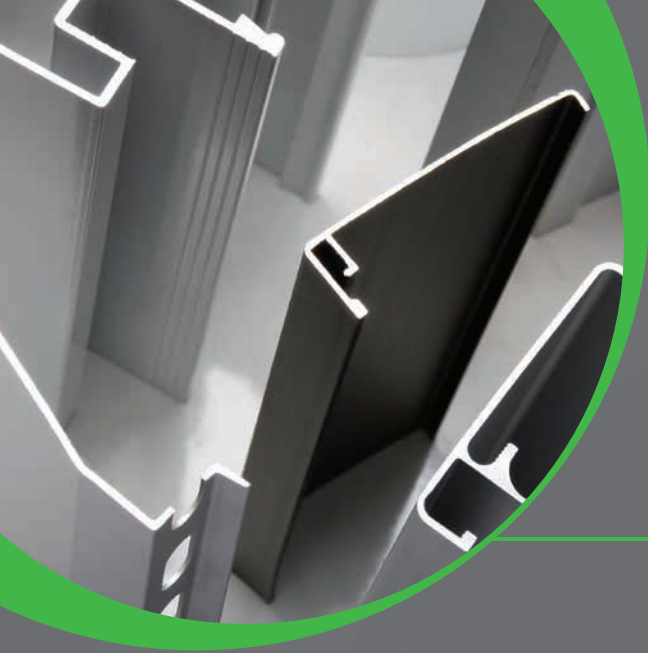


FLEXIBLE CNC

BENDING MACHINES

2018
Capacity

- extrusions curved in 3 dimensions
- curved and twisted sections
- window profile bending
- automotive and aerospace part forming



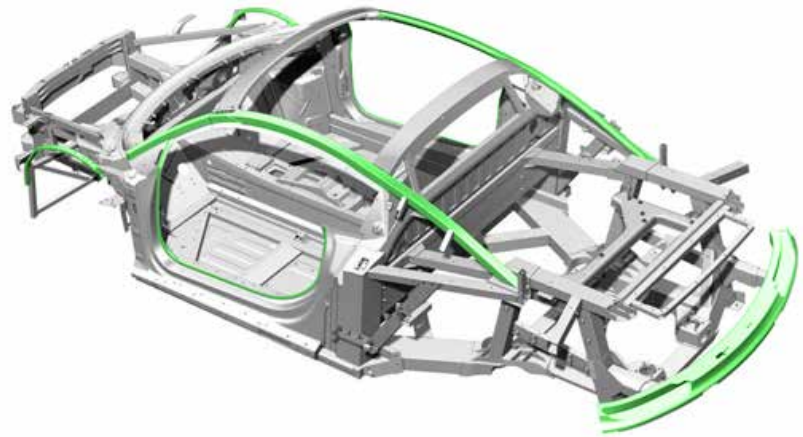
Introduction

- The leading supplier of complete aluminium bending solutions
- We are World leaders in metal forming knowledge
- Our customers are World leaders in their sector
- We have solutions for all markets





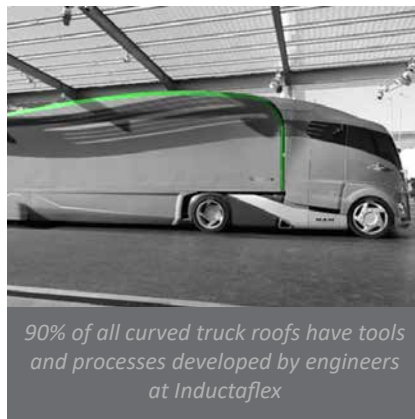
Curved louvre blades



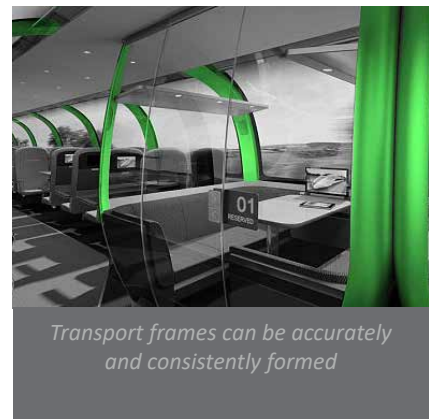
Automotive frames



All transport system sections can be formed



90% of all curved truck roofs have tools and processes developed by engineers at Inductaflex



Transport frames can be accurately and consistently formed



Exhibition Frames



World's most advanced aluminium extrusion bending machines

- No one has more experience bending metal profiles
- Servo electric and servo hydraulic
- CE, UL or CSA approved by world leading quality assurance group, TÜV
- Up to 15 controllable axes
- User friendly CNC, advanced but simple to learn
- 3-dimensional bending of profiles
- On site training package to ensure your investment pays off

Machine Capacity:

| Section | Drawing | AL-Micro | AL-1e | AL-2e | AL-3e | AL-4 | AL-5 |
|-------------------------|---------|----------------------------|----------------------------|-------------------------|--------------------------|---------------------------|---------------------------|
| Tube | | 60mm 2.5" x 1/8" | 76.1 x 2 3" x 1/8" | 114 x 3 4" x 1/8" | 219 x 3 8" x 1/8" | 323 x 3 12" x 1/8" | 323 x 5 12" x 1/8" |
| Rectangle Easy way | | 75 x 50 3" x 2" | 100 x 50 4" x 2" | 125 x 75 x 3 5" x 3" | 200 x 50 8" x 2" | 300 x 100 12" x 4" | 500 x 125 20" x 5" |
| Rectangle Hard way | | 60 x 40 2 1/2" x 1 1/2" | 80 x 40 x 3 3" x 1 1/2" | 125 x 75 x 3 5" x 3" | 150 x 75 x 3 6" x 3" | 250 x 100 x 3 10" x 4" | 450 x 125 18" x 5" |
| Square Tube | | 60 x 60 2 1/2" x 2 1/2" | 70 2 1/2" | 125 5" | 150 6" | 175 7" | 250 10" |
| Channel Easy way | | 75 x 50 3" x 2" | 100 x 50 4" x 2" | 150 x 75 6" x 3" | 250 x 75 x 5 10" x 3" | 300 x 100 x 3 12" x 4" | 300 x 100 x 3 12" x 4" |
| Channel Hard way | | 50 x 25 2" x 1" | 75 x 25 3" x 2" | 100 x 50 4" x 2" | 150 x 100 6" x 4" | 200 x 75 8" x 3" | 200 x 75 8" x 3" |
| Glazing section | | 60mm wide 2 1/2" | 100mm wide 4" | 125mm wide 5" | 150 wide 6" | 250 wide 10" | 250 wide 10" |
| Truck Cant rails | | 75 x 57 3" x 2 1/2" | 90 x 90 3 1/2" | 150 x 150 6" | 200 x 200 8" | 300 x 300 12" | 300 x 300 12" |
| Solar shading | | 75mm 3" | 75mm 3" | 150mm 6" | 200mm wide 8" | 300mm 12" | 400mm 16" |
| Frame sections | | 60mm 2 1/2" | 60 2 1/2" | 90 3 1/2" | 125 5" | 150 6" | 200 8" |
| Stainless Steel Tube | | 60mm 2 1/2" | 76.1 3" | 114 4" | 168 6" | 273 10" | 323 12" |

Due to work hardening certain sections may need more power to bend. Subsequently a larger machine may be needed. Chart is based upon T4 bendable grade material. Harder grades / anodized material may need a heat treatment cycle to be suitable for bending.

- Most sections are curved to internationally acceptable standards like CE and EN1090
- The best temper grades for forming are T0 and T4
- Larger sections are possible if the section is curved to a larger radius
- We aim to bend all sections mark free using the correct procedures and preparation, it may not be possible to do this with certain sections
- Anodised coatings have virtually no elasticity and will 'craze' when the section is formed



| | AL-Micro | AL-1e | AL-2e | AL-3e | AL-4 | AL-5 |
|------------------------------|--|---------------------------------|------------------------------------|--|--|------------------------------------|
| Style | All servo | All servo | All servo | All servo | Servo / hydraulic | Servo / hydraulic |
| Drive motors (one per shaft) | 4 | 3 | 3 | 3 | 3 | 3 |
| Maximum torque per roller | 1750Nm (1290 lb.ft) | 2500Nm (1844 lb.ft) | 4500Nm (3319 lb.ft) | 3500Nm (2581 lb.ft) | 9000Nm (6638 lb.ft) | 11500Nm (8482 lb.ft) |
| Bending force | 15t | 20t | 27t | 35t | 50t | 70t |
| X-axis travel | 200mm (7 7/8") | 200mm (7 7/8") | 350mm (13 25/32") | 400mm (15 3/4") | 500mm (19 11/16") | 700mm (27 9/16") |
| Standard shaft length | 200mm (7 7/8") | 200mm (7 7/8") | 300mm (11 13/16") | 400mm (15 3/4") | 400mm (15 3/4") | 600mm (23 5/8") |
| Shaft diameter | 50mm (2") | 60mm (2 3/8") | 105mm (4 1/8") | 105mm (4 1/8") | 130mm (5 1/8") | 150mm (5 29/32") |
| Front roller spacing | 280 - 610mm (11 1/32 - 24") | 280 - 800mm (11 1/32 - 31 1/2") | 400 - 1000mm (15 3/4 - 39 3/8") | 475 - 1200mm (18 11/16 - 47 1/4") | 550 - 1300mm (21 21/32 - 51 3/16") | 660 - 1500mm (25 31/32 - 59 1/16") |
| Approx. size | 1.9 x 1.9m (6' 2 13/16" x 6' 2 13/16") | 1 x 1m (3' 3 3/8" x 3' 3 3/8") | 1.4 x 1.4m (4' 7 1/8" x 4' 7 1/8") | 1.7 x 1.7m (5' 6 15/16" x 5' 6 15/16") | 1.9 x 1.9m (6' 2 13/16" x 6' 2 13/16") | 2.2 x 3m (7' 2 5/8" x 9' 10 1/8") |
| Approx. weight | 1800kg (3960 lbs) | 1800kg (3960 lbs) | 3600kg (7930 lbs) | 4200kg (9259 lbs) | 5500kg (12125 lbs) | 11000kg (24250 lbs) |

Machine Range and Specifications:

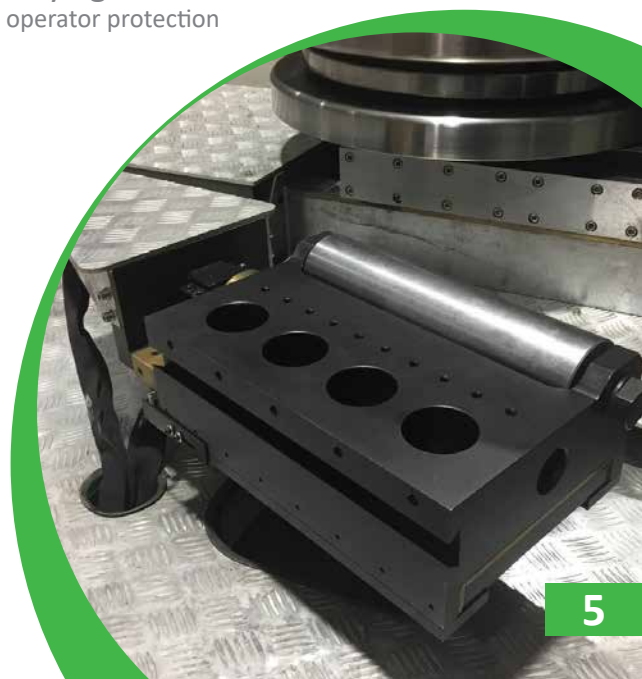
Machine features

- **Wide maximum centres**
500mm wide sections to be curved accurately.
- **Long shafts**
for greater flexibility; up to 600mm high aluminium extrusions can be curved.



- **Mandrel booster**
for hollow sections and extremely tight bends
- **Safety light curtain**
for operator protection

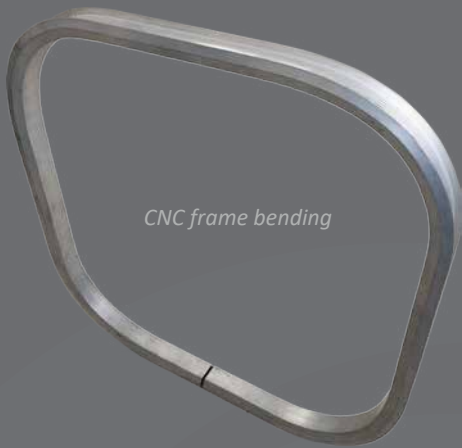
- **Electrically controlled support rolls**
for accuracy and control of twist of asymmetric sections.





Accurate CNC control

- Re-bend parts
- Automatically calculates bend positions
- Up to 16 radii per bar
- Accurate and repeatable
- Advanced manual bending feature
- No CNC or bending experience necessary



15 inch touch screen panel to control the operation

Intelligent Software



Ellipse program



U Bend shapes



Spring back calculator

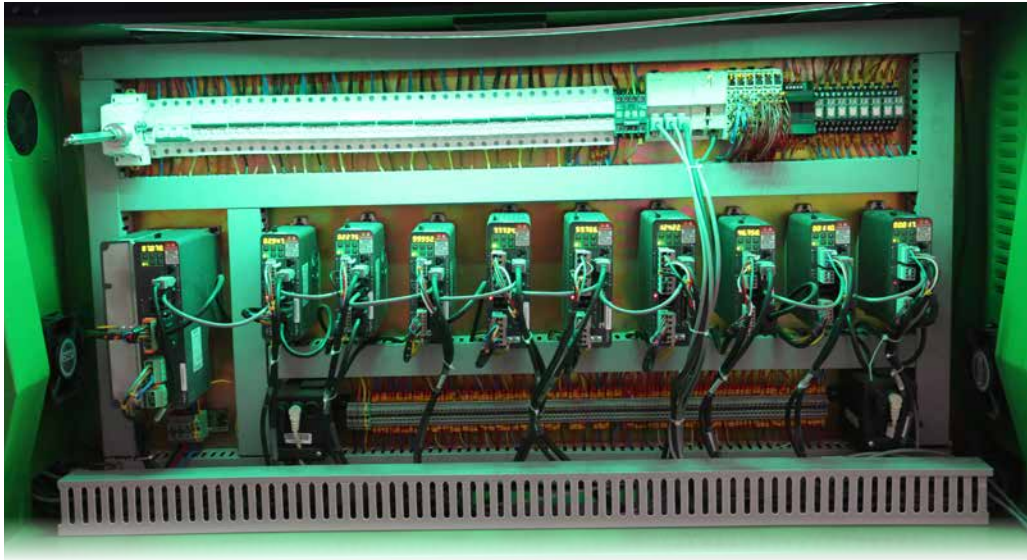
Advanced manual mode

Control of tangents

Automatic section detector



Moveable control panel to optimise the operator position during bending



Quality components

Our aluminium profile bending machines use Schneider and Panasonic HMI and PLC. We have found these most suitable for our multi axis forming and intelligent processing.



Parts produced by new operators using the Inductaflex CNC controlled machine on the first day of training





Window frame and structural section bending

smart
architectural aluminium


comar
ARCHITECTURAL ALUMINIUM SYSTEMS

SCHÜCO

 **KAWNEER**
AN ALCOA COMPANY

 **REYNAERS**
aluminium

 **TAMBEST**
glass solutions

- All sizes of window profiles can be curved
- Thermal break and bead sections formed accurately
- Multi part window sections formed
- Transoms formed without deformation
- Inductaflex Bio-filler system available to eliminate distortion of complex profiles
- On-site training courses available
- Powder coated sections curved free from marking and damage
- Virtually any system extrusion can be curved





Curved painted window profiles



Curved structural transoms



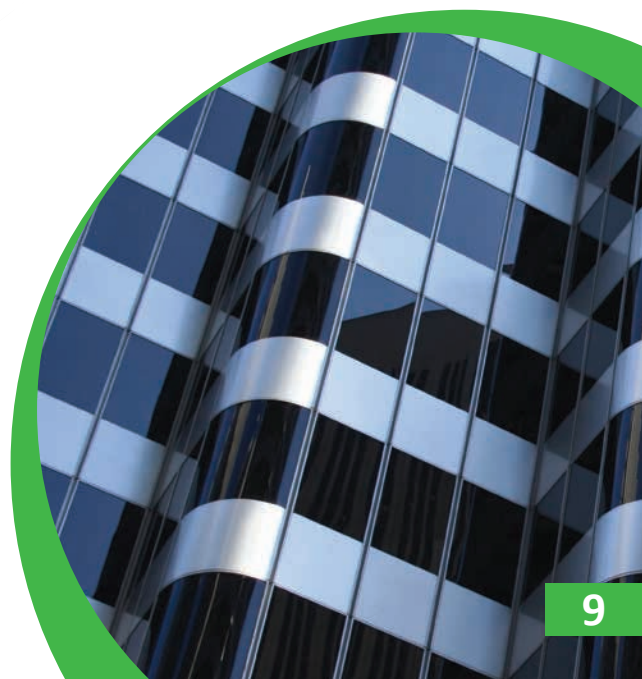
Inductaflex are masters in providing systems for specialist systems fabricators

Some of the hardest sections to bend are found in the curtain walling / fenestration industry. Tall thin wall tall transom sections always look impressive on a frontage, however they are notoriously difficult to bend.

Few companies offer the more difficult bends, tall sections and tight radii. Typically, the inside of the sections concave beyond acceptable norms or ripple without specialist processes being used.



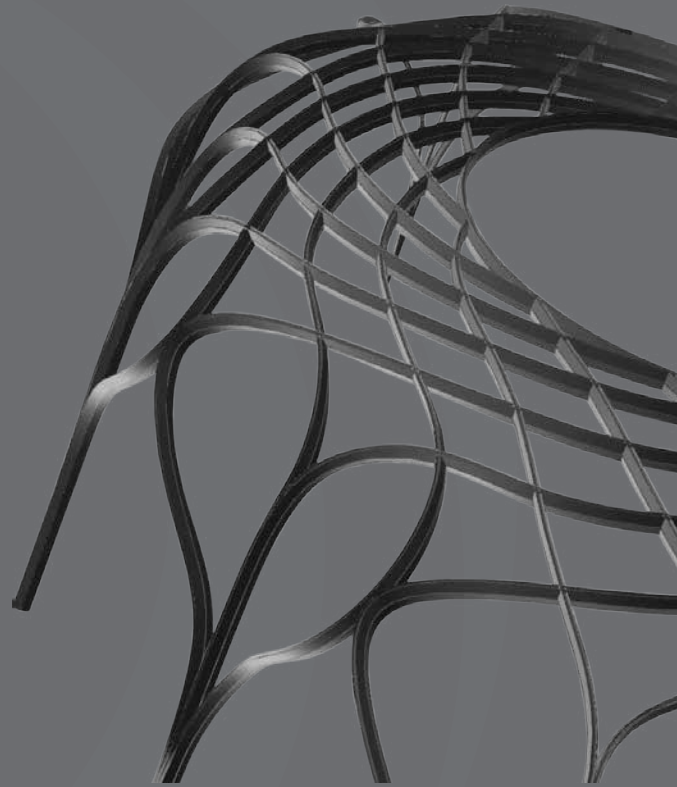
Curved 250 x 100 frame sections. zero distortion using Inductaflex Bio-fler





3 dimensional bending

- Curved and twisted sections
- Sections curved at an angle
- Solar shading curved at various angles from 0 – 90 degrees
- Bends in multiple directions
- Asymmetric sections curved



Level 10 on the metal forming scale but the most difficult of projects can be formed with training on the Inductaflex machine.

Even with automation this is a tricky task but we have all the tools to enable the easiest solution. On-site training is essential and part of the inductaflex package.



Extreme 3D bending



Mital orbit, bending process and trials designed by Craig Barnshaw, MD Inductaflex



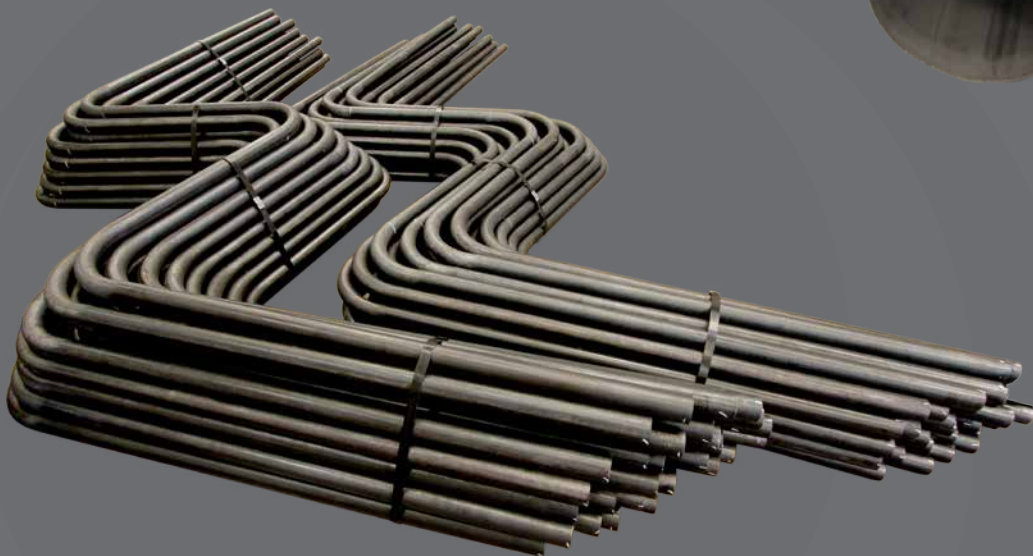
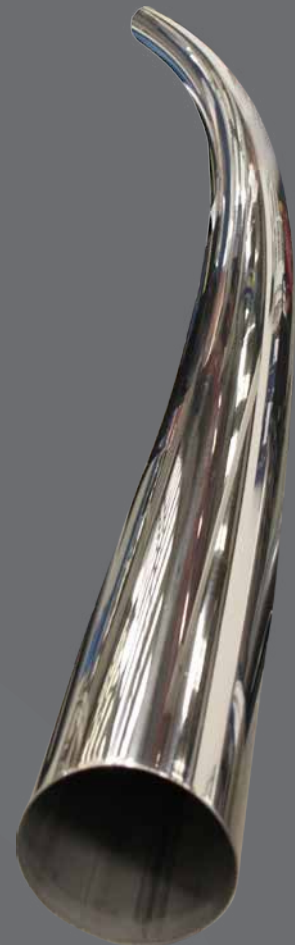
Achieve the impossible





Hollow Sections

- Automated solutions
- 'Bend-to-end' techniques allow a final cut part to be formed
- Specialist machines for 'S' bends
- Forming in a single pass
- Polished sections curved without marking



Transport channels, frames and rails

- Twist free
- No crushing of the channels
- Smooth transition from straight to bend
- Multiple bends and transitions

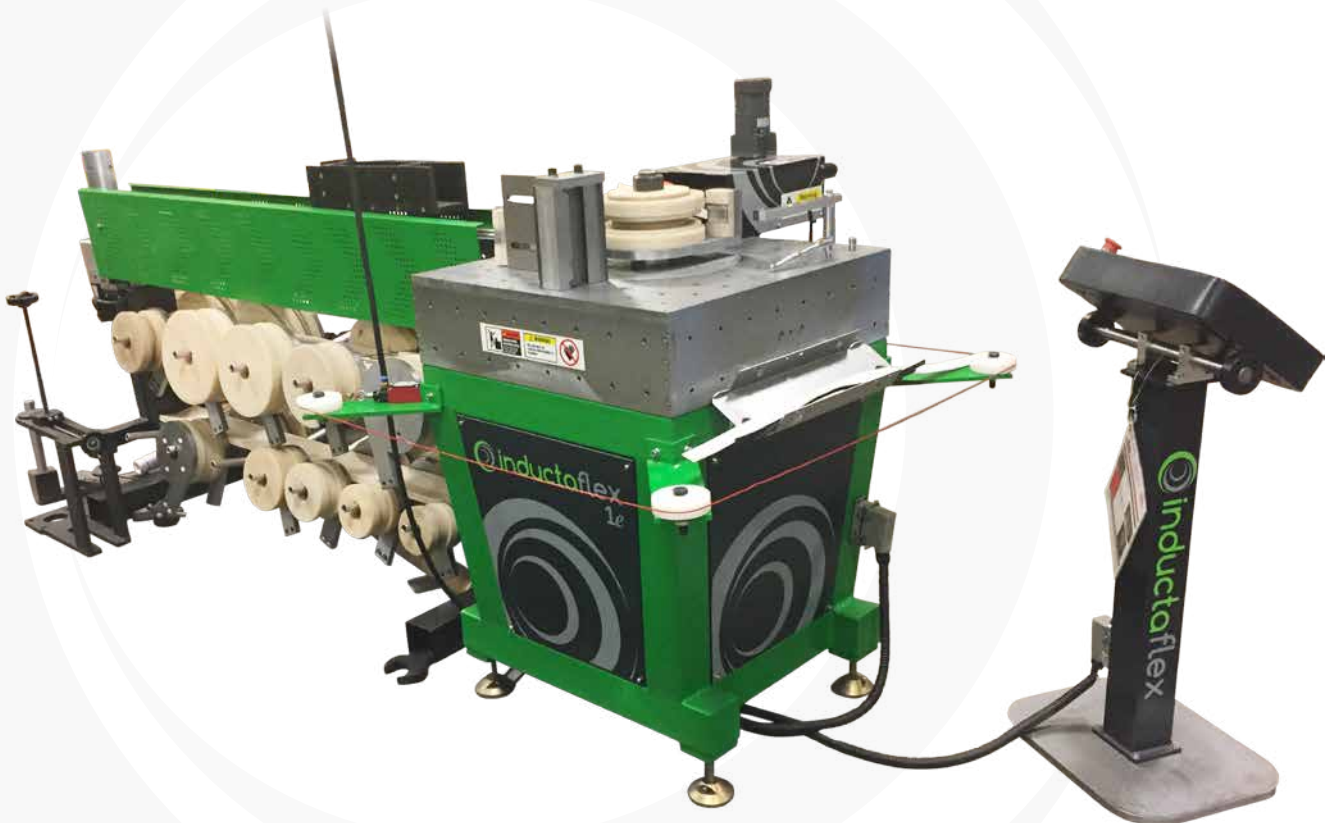


*Curved aluminium
exhibition frames*



Flow Former FL-1e

- Automatic positioning of the section to commence bending
- CNC bending of the section
- Servo electrically controlled Booster to eliminate slipping of the section during bending with a mandrel
- Mandrel device with automatic lubrication
- Automatic movement to the next bend position
- Safety light curtain for operator protection.





Machine Capacity

Section Capacity 4" x 4" x 3/16" (100mm x 100mm x 5)

Frame Capacity 4" wide (100mm)

Pipe Capacity 4" x 1/8" (114mm o/d x 3mm)

The range compliments the roller bending range and matches capacity as such. From the flexible entry size up to the mighty FL-5e.





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