

EB Range

Ideal for low volume, high accuracy production and prototypes in demanding applications

The EB Range of precision CNC controlled manually operated 3 axis mandrel bending machines offers accurate, multi-plane bending at a lower cost than most CNC benders. offering accurate multi-plane bending at a lower cost than most CNC benders. Popular in the Aerospace, Formula One and Oil & Gas industries these machines provide precision bending up to 50 mm diameter tube.

The axes are operated by hand and CNC controlled using encoders and progressive electromagnetic brakes.

The CNC control includes a PC Based 15" Touch Screen and is capable of processing up to 100 bends per component, storing infinite parts and connecting to both CAD and most tube measuring systems.



Standard Specifications	EB1000	EB2000
Bending Capacity*	3 mm - 25 mm	3 mm - 50 mm
Bend Radius (CLR)	Up to 135 mm	Up to 200 mm
Bend programme lines	Unlimited	Unlimited
Bend settings	100	100
Max tube length over mandrel	*1175 2775 3775 mm	Customer specific
Max bend arm movement	190°	190°
Machine accuracy	+/- 0.1 mm & +/-0.1°	+/- 0.1 mm & +/-0.1°
Screen	LCD 15" touch screen	LCD 15" touch screen
Length	*2965 3905 4945 mm	3982 mm
Height at carriage	1000 mm	1000 mm
Width at bend head	840 mm	1696 mm
Weight	365 kg	750 kg
Electrical	Single Phase 220-240v	3 Phase 380-415v

*Short | Medium | Long

OPTIONAL EXTRAS

- ▶ Left hand bend head
- ▶ Right hand/left hand mini bend heads designed for small diameter tube with complex forms
- ▶ Right hand or left hand reduction gear operated Bend Heads suitable for increased tube diameters up to 1.25 on EB1000. Power Assist on EB2000 as standard
- ▶ Bend head mobile stand for secure storage of additional bend heads
- ▶ Varying bed lengths between 2m - 4m can be specified
- ▶ Mandrel rod support system - pneumatically operated
- ▶ Wiper die mounting bracket
- ▶ Data can be entered as XYZ or YBC and will convert to XYZ & YBC/LRA data
- ▶ Springback information can be applied to create bend data (compensated for springback and elongation)

*Bending capacity based on Unison Tube Bending Calculator App. Specifications are correct at time of going to print but subject to change

Intelligent Tube Technology

PRODUCT RANGE

THE LARGEST RANGE OF ALL - ELECTRIC MACHINES ON THE MARKET FROM ¼" TO 10"

AEROSPACE



AUTOMOTIVE



MARINE



OIL & GAS



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CUSTOM



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EMS 514526

Why choose Unison?

- ▶ The World's most extensive range of All-Electric tube bending machinery
- ▶ Tailored solutions, designed to meet your exact requirements
- ▶ World class support from our team of Applications and Service Engineers with decades of tube industry experience
- ▶ Over 40 years' experience in design and manufacture of All-Electric tube benders
- ▶ All machines come with a 12 month standard parts and labour warranty
- ▶ Our sister company Ingenium Integration allows us to conceptualise and engineer turnkey automated solutions to advance your whole production process

THE BREEZE RANGE



Size	25 mm (1")	50 mm (2")	80 mm (3")	100 mm (4")	130 mm (5")	150 mm (6")	180 mm (7")	
Bend Direction	right or left	right or left	right or left	right or left	right or left	right or left	right or left	
Bending Capacity*	25 x 1.6 mm	50 x 2.0 mm	80 x 1.6 mm	100 x 2.0 mm	130 x 2.5 mm	150 x 3.0 mm	180 x 3.5 mm	
Bend Torque	1,000 Nm	5,500 Nm	14,800 Nm	30,000 Nm	47,000 Nm	92,000 Nm	165,000 Nm	
Servo Controlled Follower	180° at 3D CLR	180° at 3D CLR	180° at 3D CLR	180° at 3D CLR	180° at 3D CLR	180° at 3D CLR	180° at 3D CLR	
Collet Capacity	25 mm	50 mm	80 mm	100 mm	130 mm	150 mm	180 mm	
Axis Speed (max) Feed	1,200 mm/sec	1,200 mm/sec	1,200 mm/sec	500 mm/sec	500 mm/sec	500 mm/sec	500 mm/sec	
Bend	260 deg/sec	180 deg/sec	140 deg/sec	70 deg/sec	50 deg/sec	25 deg/sec	10 deg/sec	
Rotation	360 deg/sec	360 deg/sec	360 deg/sec	360 deg/sec	90 deg/sec	90 deg/sec	90 deg/sec	
Max Stacks at Max OD (Std)	4	4	4	3	3	2	1	
Max Bend Radius (Std)	4D	4D	4D	4D	4D	4D	4D	
Max Bend Angle	190°	190°	190°	190°	190°	190°	190°	
Load Height (Std)	1,220 mm	1,220 mm	1,160 mm	1,400 mm	1,300 mm	1,290 mm	1,275 mm	
Max Tube Length (Std)	3,200 mm	3,200 mm	3,200 mm	3,200 mm	3,200 mm	3,200 mm	6,000 mm	
Max Tube Length (Hitch) (Std)	4,400 mm	4,400 mm	4,700 mm	5,700 mm	5,900 mm	5,300 mm	7,900 mm	
Multi Radius**	Standard	Standard	Standard	Standard	Standard	Standard	Standard	
Repeatability/ Accuracy	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°
Length (Std)	5,700 mm	5,700 mm	6,530 mm	7,750 mm	7,840 mm	8,100 mm	10,600 mm	
Width (Std)	1,450 mm	1,450 mm	2,150 mm	2,270 mm	2,370 mm	2,910 mm	2,900 mm	
Weight (Std)	2,200 kg	3,000 kg	6,200 kg	11,000 kg	13,500 kg	16,000 kg	20,000 kg	



Why choose a Unison Tube Bending Machine?

- ▶ True automatic set up provides reduced tool change time and increases productivity
- ▶ Laser Springback Correction System makes small batch part production easy and reduces expensive waste
- ▶ Proven machine payback time, often less than one year
- ▶ Major reduction in skilled labour requirements
- ▶ Unison's unique mechanical and software design makes it easy to manipulate difficult materials
- ▶ Highly developed, feature packed, control software to deliver right first time bending
- ▶ Up to 90% reduction in power consumption, noise and waste compared to traditional hydraulic tube bending technology



Size	220 mm (8")	273 mm (10")	Twinhead (1.5")	Pinball 30 mm (1 3/16")	Pinball 50 mm (2")	Pinball 90 mm (3.5")
Bend Direction	right or left	right or left	right and left	right and left	right and left	right and left
Bending Capacity*	220 mm sch 40 c/s 32"Clr	273 mm sch 40 c/s 40"Clr	Ø 38 x 1.5 mm	Ø 30 x 1.65 mm	Ø 50 x 2.0 mm	Ø 90 x 2.0 mm
Bend Torque	360,000 Nm	660,000 Nm	1,7500 Nm	1,500 Nm	5,500 Nm	23,000 Nm
Servo Controlled Follower	180° at 2D CLR	90° at 2.8D CLR	NA	180° at 3D CLR	180° at 3D CLR	180° at 3D CLR
Collet Capacity	220 mm	273 mm	38 mm	30 mm	50 mm	90 mm
Axis Speed (max) Feed	600 mm/sec	600mm/sec	2000 mm/sec	600 mm/sec	600 mm/sec	500 mm/sec
Bend	8 deg/sec	6 deg/sec	180 deg/sec	260 deg/sec	180 deg/sec	90 deg/sec
Rotation	100 deg/sec	40 deg/sec	90 deg/sec	360 deg/sec	360 deg/sec	360 deg/sec
Max Stacks at Max OD (Std)	1	1	1 per head	4	4	3
Max Bend Radius (Std)	3.7D	3.7D	3D	4D	4D	4D
Max Bend Angle	190°	190°	190°	190°	190°	190°
Load Height (Std)	1,550 mm	1,665 mm	NA	1,250 mm	1,300 mm	1,350 mm
Max Tube Length (Std)	6,100 mm (20ft)	6,100 mm (20ft)	6,000 mm	3,200 mm	3,200 mm	3,200 mm
Max Tube Length (Hitch) (Std)	9,100 mm	9,100mm	NA	4,400 mm	4,400 mm	5,100 mm
Multi Radius**	N/A	N/A	NA	Standard	Standard	Standard
Repeatability/ Accuracy	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°	Feed: 0.05/0.1 mm Bend: 0.05/0.1 Rotation: 0.05/0.1°
Length (Std)	11,600 mm	11,800 mm	6,500 mm	5,700 mm	5,700 mm	6,800 mm
Width (Std)	3,860 mm	4,470 mm	1,600 mm	2,342 mm	2,465 mm	3,950 mm
Weight (Std)	47,000 kg	55,000 kg	2,800 kg	3,000 kg	4,760 kg	12,000 kg

