

563-391-7700

HIGH-SPEED ELECTRIC MANDREL BENDERS



PEDRAZZOLI

ELECTRO-HYDRAULIC END FORMING MACHINES

HIGH-SPEED ELECTRIC MANDREL BENDERS

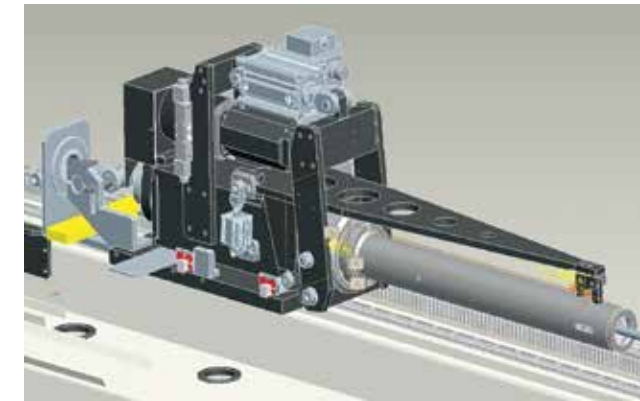


Pedrazzoli Bend Master Series CNC Feature and Benefits

Pedrazzoli Bend Master Series with electric axis control including clockwise and counter-clockwise bending during same cycle. Multi stack tooling design is capable of producing fixed or variable radius bends. Machine structure manufactured from high-grade steel. All components machined to exact standards with dimensions certified by measuring systems. Linear guide movements feature re-circulating ball spheres, brushless motors and rigid mechanical structure. Tool post strengthening tie rod included for greater precision. Pedrazzoli electric tube benders are equipped with FANUC digital motors, servo amplifiers, and connection cables. CNC language is ISO (or G-code) generated automatically by the Pedrazzoli Intelligent Motion control (IMS). All Pedrazzoli machines are mechanically and electrically designed to offer high productivity, excellent quality and long work life.

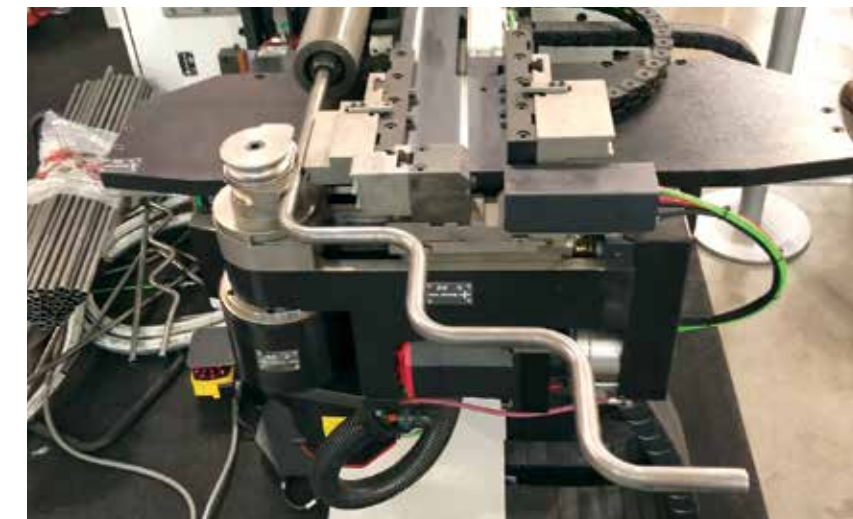
- Clockwise and counter-clock wise bending
- Variable and multi-radius bending in the same cycle
- Compact bending head design accommodates most applications
- Intuitive IMS touchscreen control
- Electric axis for greater precision
- FANUC drive controllers for improved reliability
- Innovative tube stop allows positioning from rear of carriage (optional)

- Torque controlled positioning of carriage on incline tooth precision gear rack
- Controlled torque of clamp die and pressure die
- Automatic lubrication work piece
- Rapid coupling system for quick mandrel rod installation
- Safety light barriers with programmable work zone



- Automatic adjustment of tools
- Boost for tight radius bending with synchronized control of axis

- Central lubrication of guides and ball screws
- Models with capacity to three and a half inches
- Integrated part handling options available



PEDRAZZOLI

					
Specifications	BM25	BM38	BM45	BM65	BM90
Capacity	1" x .083	1.5" x .095	1.75" x .118	2.5" x .083	3.5" x .157
CW and CCW Bending	Yes	Right Left Independent	Yes	Yes	CW
Maximum CLR CW	6"	6"	6"	9.8"	15.7"
Maximum CLR CW-CCW	2.6"	NA	6"	9.4"	NA
Minimum Inside Radius with Standard Spindle	1.18"	1.2"	1.57"	1.87"	1.77"
Variable Radius Bending	Yes	Yes	Yes	Yes	Yes
Maximum Bend Angle	190°	180°	190°/182°	187°/183°	190°
Min. Distance Between Bends	1.5-2 x Diameter	0.5 x Diameter	1.5-2 x Diameter	1.5-2 x Diameter	1.5-2 x Diameter
Max. Distance Between Bends	NA	204"	NA	NA	NA
Max. Stroke Clamp Die	4"	3.15"	4.35"	8"	6"
Max. Stroke Mandrel	6"	Machine without Mandrel	6"	6"	29"
Section Modulus cm ³	0.77	2.33	3.9	6.6	22.25
Horizontal Head Travel	17.7"	19.6"	14.2"	20"	16.1"
Vertical Head Travel	10.6"	NA	11.4"	11.8"	11.8"
Number of Bend Heads	1	2	1	1	1
Punching	Not Available	Available	Available	Available	Not Available
Electrically Controlled Axes	8	8	10 + 1 optional	10 + 1 optional	6
Drive Controllers	FANUC	FANUC	FANUC	FANUC	FANUC
Precision of Electric Axis	+ or - .05 mm	+ or - .1 mm	+ or - .05 mm	+ or - .05 mm	+ or - .1 mm
Carriage Speed	65" / sec	32.8" / min	36" / sec	28" / sec	28" / sec
Bend Arm Speed	222° / sec	160° / sec	200° / sec	99° / sec	64° / sec
Tube Rotation Speed	877° / sec	NA	600° / sec	600° / sec	287° / sec
Central Clamp Rotation	NA	250° / sec	NA	NA	NA
Maximum Tool Stacks	3+	2-3	3+	3+	3+
Software	IMS	IMS	IMS	IMS	IMS
Webcam	Yes	Yes	Yes	Yes	Yes
Max. Tube Length on Front Stop	120"	204"	118"	159"	157"
Max. Tube Length on Rear Stop	176"	NA	181"	224"	212"
Machine Dimensions	240" x 65" x 75"	257" x 78" x 57"	244" x 55" x 66"	298" x 67" x 75"	314" x 92" x 77"
Height of Work Plane	45"	47"	43"	48"	52"
Weight	5,300 lbs	8,400 lbs	6,840 lbs	10,360 lbs	16,314 lbs
Power	480V 16kw	480V 53kw	480V 22kw	480V 50kw	480V 50kw
Hydraulic Reservoir	Full Electric	39 gallons	NA	NA	79 gallons

Stern Brown End Forming Machines

Pedrazzoli Stern Brown electric end forming machine series proven reliable design produces multiple forming and machining operations to the work piece in one cycle. Highly flexible intuitive IMS software combines with the reliability of FANUC drives controllers accurately producing parts with minimum maintenance. Machine base manufactured from nodular cast iron for greater overall machine stability. Automatic working optimization of tooling turret movement features up to 15 powered workstations capable of expanding, reducing, end forming, beading, facing, chamfering, closing, threading, tapping, flaring and more. Integrate with Bend Master electric series tube bending machines for greater productivity.



Stern Brown Features and Benefits

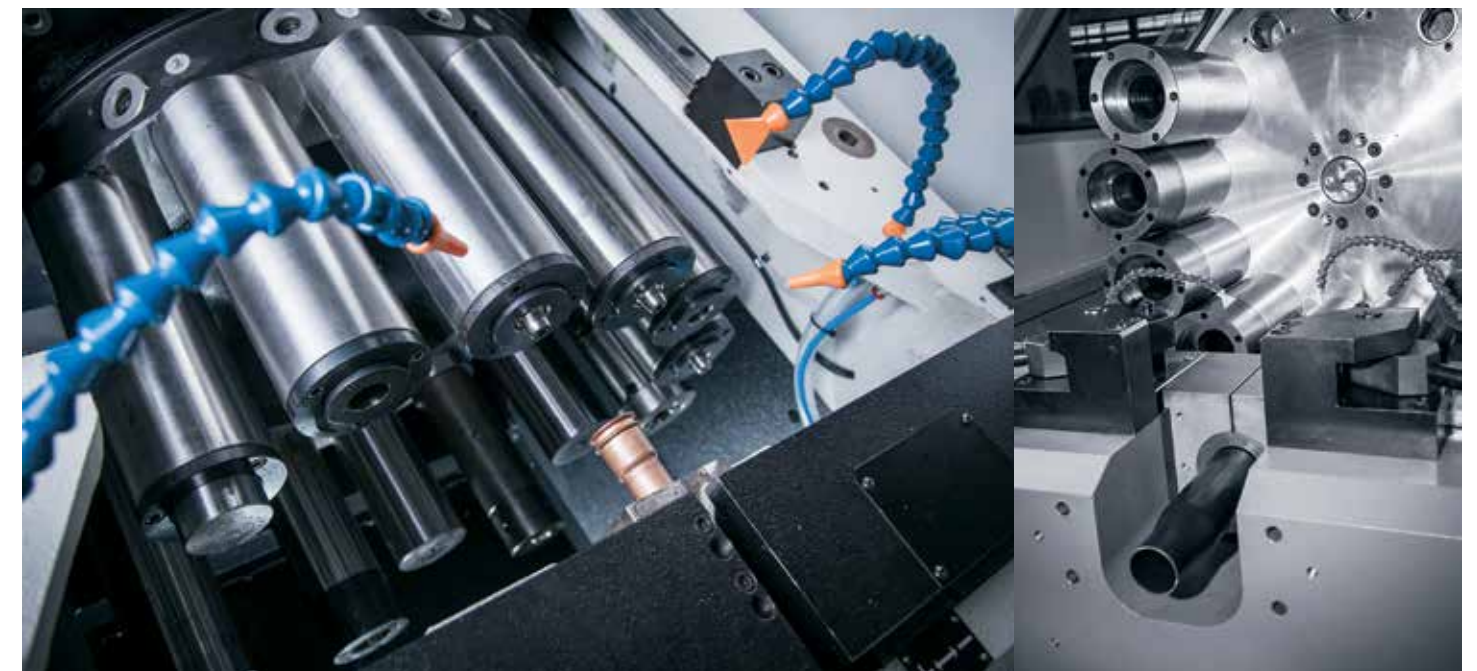
All Stern Brown end formers are equipped with Pedrazzoli IMS (Intelligent Motion Software) developed for controlling end forming operations. Software allows operator to visualize part, create, copy and execute program via touchscreen. Remote design, and download from network available on request. Program single or multiple tool stations and working sequence. Manual movement page enables on screen selection of tooling, jogging with variable speed control, ideal for setup and prototype work. Control memory stored up to 10000 programs.

- Three axis with digital absolute brushless motors control tooling rotation, turret rotation, and tooling advance
- Working motion driven with ball screw and bearing designed for heavy loads
- Linear forming and machining with Hydraulic movement
- Up to fifteen work tooling stations
- All tooling stations are capable of rotation for 360° end forming
- Tool stations rotate to machine center for greatest efficiency and faster tool changes
- Vise feature manual opening lever for pre-clamping of various part shapes
- Clamping units designed to work in tandem or independently
- Webcam for remote assistance
- User-friendly IMS software
- Requires minimum floor space





Specifications	Stern 25	Stern 50	Stern 80	Stern 160
Maximum Diameter	1.375"	2.125"	3.375"	6.5"
Maximum Wall Thickness	.118"	.156"	.156"	.196"
Maximum End Form Depth	5.9"	6.7"	7.9"	7.1"
Electrically Controlled Axes	3	4	3	3
Powered Tool Stations	15	15	12	12
End Form Speed	5.5"/sec	4.2"/sec	2.62"/sec	2.81"/sec
Positioning Precision	.05 mm	.05 mm	.05 mm	.05 mm
Working Thrust	80 kN	150kN	250 kN	500 kN
Tool Disk Rotation Torque	12 Nm	12 Nm	12 Nm	12 Nm
Vise Clamp Force	5,388 kg	23,000 kg	NA	80,000 kg
Clamp Holding Force	120 kN	230 kN	380 kN	800 kN
Jaw Length	4.25"	6.7"	7.9"	9.45"
Maximum Jaw Open	2.12"	2.16"	3.5"	6.4"
Maximum Work Unit Travel	7"	11.8"	15.7"	15.7"
Standard Tool Block Dimension	7.7"	7.7"	6.9"	6.9"
Software	IMS	IMS	IMS	IMS
Webcam	Yes	Yes	Yes	Yes
Machine Dimensions	95" x 58" x 67"	95" x 58" x 67"	122" x 73" x 67"	142" x 87" x 77"
Weight	4,000 lbs	5,500 lbs	9,900 lbs	19,800 lbs
Power	480V 16.5kw	480V 16.5kw	480V 16.5kw	480V 25kw
Hydraulic Reservoir	30 gallons	24 gallons	30 gallons	80 gallons



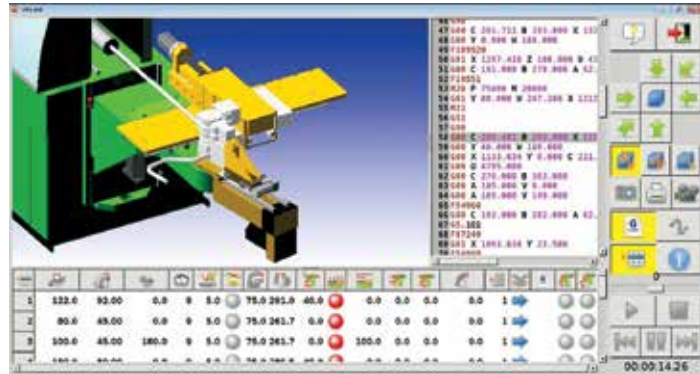
Intelligent Motion System (IMS)

Features and benefits of Pedrazzoli Intelligent Motion System (IMS)

Introducing Pedrazzoli's highly flexible Intelligent Motion System (IMS) program with touch screen designed for intuitive user-friendly operation with three-dimensional graphic programming of our machines. Quickly create, control and execute new programs in minutes. IMS represents a single solution for operating and managing bending, end forming processes. Effectively enhancing operator training and improving productivity.



Simulation mode immediately analyzes work piece feasibility, optimizes production time and advises of possible interference.



Easily manage all machine axis within predefined safety area, ideal for optimizing tool testing and programming of machine sequences during setup. Input data directly to machine or import of 3D drawing to assist in creating machine cycle. Accepts XYZ or Cartesian coordinates with conversion.

Automatic generation and optimization of symmetrical or mirror parts. Automatic generation of G-code to FANUC NC.

G-code accessibility allows operator to modify data, sequence, and machine cycle.

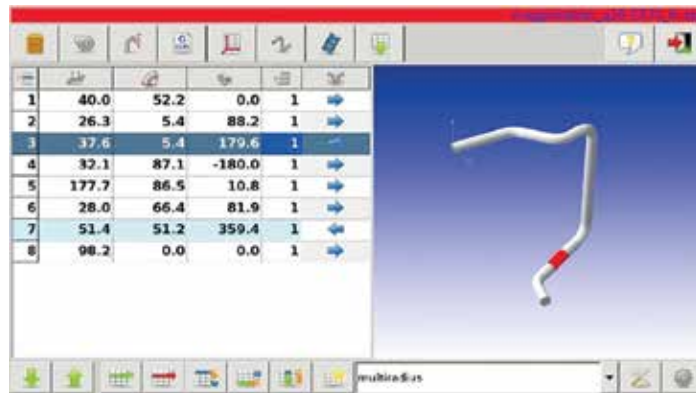
Control each program step, axis speed, simultaneous movement, mandrel extraction, lubrication functions.

Tooling page displays tooling description and settings for slide thrust, carriage movement, loading, bend die and more.

Manual movement page allows complete control of single jog, axis speed and overall cycle movement during setup. Ideal for prototype work.

Importation of IGES files

- IMS OFFICE package offline programming of work cycle, shares programs and data between Pedrazzoli machines creating a single access drive
- Easily recall programs visually by scrolling through directory
- IMS platform available for PC, Tablet and Smartphone



- Designed to fully advantage included FANUC drives offering maximum reliability, reducing connections, while providing detailed diagnostics
- Monitor axis functions including position, speed, torque, temperature and calibration with graphic visualization during the bend

Automated Work Cell



Example of integrated solution based on standard machines

Work cell for automatic execution of BENDING + END FORMING thanks to the adoption of an articulated loading robot which reproduces all the work phases of an operator.

- Loading chute transfers tube towards the bending phase
- Single intervention of operator; adapt chute to tube length
- Automatic loader
- 10 electrically controlled axis for multi-radius and clockwise and counter-clockwise bends
- Automatic adjustment of tools for rapid set-up
- Maximum versatility in making various end forms
- Possibility of integrating phase for nut insertion onto bent tube
- FANUC robot; world leader in industrial robotics
- Double clamp for combined operations
- Integration of handling functions with quality control functions



563-391-7700



PEDRAZZOLI



About This Brochure: We have tried to make this brochure comprehensive and factual. We reserve the right to make changes at any time without notice, to prices, colors, materials, equipment, specifications, models and availability.

Brochure may have been updated since the time of printing.



CML USA, Inc.
Davenport, IA
info@ercolina-usa.com

www.pedrazzoli-usa.com