



# Form-Line 1.0

1" BENDER FROM TUBE-LINE TECHNOLOGIES

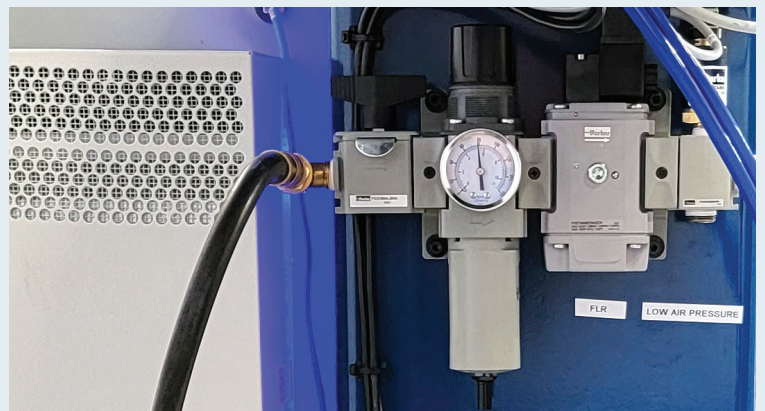
The Form-Line 1.0 is a fully-electric tube bender with a unique head offset for maximum clearance. It is made in America and utilizes the reliable BendPro G2 control. The Form-Line 1.0 is an all-electric CNC tube bender that allows precision programming of all axes to control the rotary draw bending process. It comes standard with a programmable in-line clamp that allows for easy and repeatable tooling set-up. The Form-Line Series utilizes a blue and grey color scheme to not only highlight its elegant design, but also to stand up to harsh production environments.



## BOSCH-REXROTH MS2N MOTORS WITH INVERTER DRIVES ARE USED.

The linear guideways are also Bosch-Rexroth. The I/O is Beckhoff as it is using the BendPro software.

The bender has 9,500 in-lbs of torque (ie. a 1.000 OD x .025 WT (mild steel) on a 1" CLR requires 7,700 in-lbs of torque; a 1.000 OD x .035 WT (304 sstl) on a 1.0" CLR requires 8,700 in-lbs of torque.)



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## STANDARD SPECIFICATIONS AND FEATURES:

- Tube outside diameter: 1" max
- Tooling stack: Single or multi stack
- Rotation: Right-hand
- Tube over mandrel: 5'
- Bend radius:  $1/2" \leq CLR \leq 5"$
- Safety: Proximity laser scanner
- CNC control: BendPro G2
- Voltage: 460V, 60Hz, 3-Phase
- Weight: 6,000 lbs.
- Approximate dimensions (L x W x H): 11' x 4' x 6'
- Full warranty period: 1-year from date of installation
- Assembly prints and manual: 1 hard copy and 1 electronic copy on USB
- On-site installation support and training: 3 days in the U.S.A. (Does not include unloading, positioning, lagging, and connection hook-ups to the machine)

## ADDITIONAL OPTIONS:

- 4' bed extension (Tube over mandrel 9' max.)
- Servo mandrel bending package w/ auto-tangent adjust; Includes wiper die holder
- Remote start footswitch
- Tube-in-collet switch
- B-axis indexing switch
- Machine mounts
- Side-mounted proximity laser scanners (2 additional scanners)
- Electrical cabinet air conditioner
- Robot interface

## BendPro G2

### ADDITIONAL STANDARD FEATURES:

- Program parts while bending
- Multi-part sequencing
- Resume after E-stop and safety zone violation without scrapping the part
- Start bending at any bend number
- Open and closed collet bending support
- Hitch feeding
- Recapture the tube in the pressure die zone using Teach
- Programmable unload sequences using Teach
- Profiling of pressures and speeds
- Feed rate override (0-100% of programmed speeds)
- Electronic gearing of bend arm, carriage, PDA, etc.
- Springback and elongation compensation options
- 24 user-definable alarms



### AVAILABLE OPTIONS:

- CAD interface for importing STEP, IGES, and ShipConstructor files
- CMM interface (Measuring machines including Romer, AICON, FARO, Eaton Leonard Vector, etc.)
- Desktop programming software
- Simulation software (at bender and desktop)
- Push bending (large and/or multiple-radii)