



Form-Line 2.0

2" BENDER FROM TUBE-LINE TECHNOLOGIES

The Form-Line 2.0 is the first in a series of rugged fully-electric tube benders. It is made in America and utilizes the reliable BendPro G2 control. The Form-Line 2.0 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.

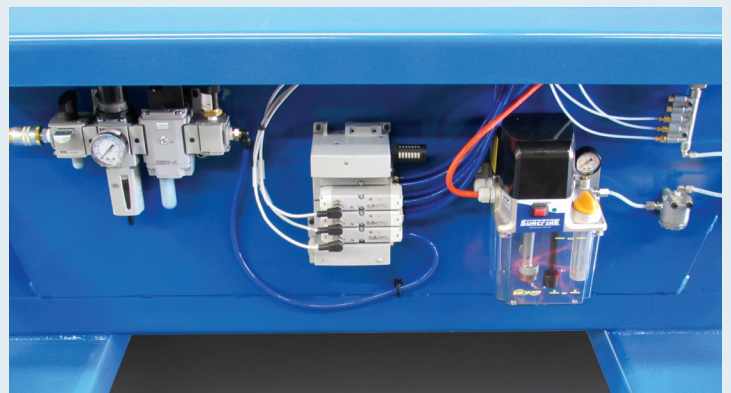


BOSCH-REXROTH MS2N MOTORS WITH INVERTER DRIVES

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

The clamp, pressure die, and mandrel extractor have the same drive-train with a shorter ball screw on the clamp.

The machine can be configured at 50,000 in-lbs of torque at 32 RPM or 70,000 in-lbs of torque at 26 RPM. (ie. a 2.000 OD x .049 WT (mild steel) on a 2" CLR requires 45,000 in-lbs of torque; a 2.500 OD x .049 WT (mild steel) on a 2.5" CLR requires 71,000 in-lbs of torque.)



Form-Line 2.0

2" BENDER FROM TUBE-LINE TECHNOLOGIES

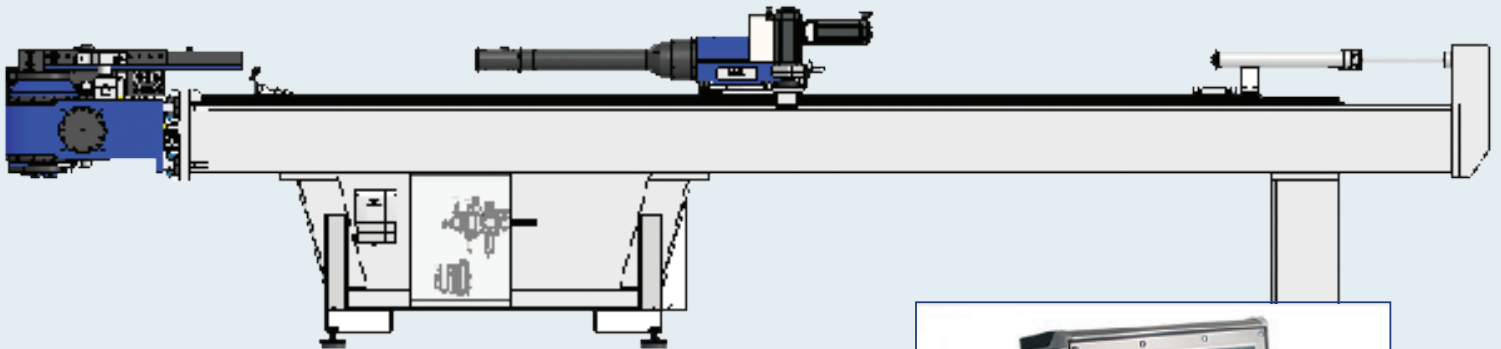


STANDARD SPECIFICATIONS AND FEATURES:

- Tube outside diameter: 2" max
- Tooling stack: Single-level 4" high tooling
- Rotation: Right-hand
- Tube over mandrel: 8'
- Bend radius: $1/2" \leq CLR \leq 10"$
- Safety: Proximity laser scanner
- CNC control: BendPro G2
- Voltage: 460V, 60Hz, 3-Phase
- Weight: 8,000 lbs.
- Approximate dimensions (L x W x H): 250" x 60" x 70"
- 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 12' 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
- Collet and tube stop, machined
- Tooling adapter package, 2" tall tooling w/ 1" centerline
- BendPro G2 control
- BendPro service technician: start-up, tuning, testing, and training



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)