Advancing the technology of automatic bending systems is Eaton Leonard’s specialty that has led to world leadership in the tube bending industry. The new, all-electric VB 25 ELEC delivers superior productivity, part quality and reliability in tubes through 25mm (1.0") diameter. This extremely compact CNC tube bender is designed for enhanced setup, fast changeover and easy operation.

All-electric design, without the use of hydraulics, ensures maximum performance in a clean, quiet package. In addition, electric operation offers energy savings compared to conventional hydraulically operated tube benders.

The highly automated VB 25 ELEC incorporates a wealth of standard features in a cost-effective, compact package. For example, its unique clockwise and counter-clockwise bend arm rotation feature provides extra flexibility for the most complex bending applications. Also standard are precision linear bearings on the pressure die, follower slide and centerline radius for easy adjustment and dependable operation.

A unique, servo-controlled pressure die enables programming of pressure die speed and timing with “soft touch” contact against the tube. This feature eliminates pressure die marking of the tube, even on thin wall, soft materials. Additionally, servo control with advanced software automatically calibrates the pressure die reach without any manual adjustments, enabling quick setup.

Machine programming and monitoring are easily accomplished through the Lightspeed touch screen interface. This operator-friendly system incorporates a PC-based processor and commercially available I/O devices. Lightspeed incorporates a 15" high-resolution active matrix flat panel display and separate keyboard for easy programming. Interface to Eaton Leonard’s Vector 1 tube data center is standard, providing closed-loop inspection, bender data correction and storage.

The VB 25 ELEC is offered with a broad selection of accessories for quick setup, changeover and maximum throughput. Typical accessories include a patented headshifter for stacked tooling applications, position controlled pressure die assist and automatic loading/unloading devices.
**Standard Mechanical Features**

- All electric design - no hydraulics - ensures clean, quiet operation and repeatability
- Electric, servomotor-driven bend head provides fast axis speed, rapid acceleration and high torque
- Clockwise and counterclockwise bend arm rotation feature for additional bending application flexibility
- Servo-controlled pressure die provides automatic adjustment, and "soft touch" feature reduces marking of the tube
- Extra-performance rack and pinion carriage with direct-drive servomotors delivers exceptional accuracy and repeatability
- Patented parallel link-driven bend arm design eliminates chains and conventional components for enhanced reliability
- Precision linear bearings on pressure die, follower slide and centerline radius for easy adjustment and reliability
- Compact, low interference bend arm provides maximum clearance for intricate parts
- Variety of collets available for different applications, including "Rubberflex" quick-change, jaw type and special collets
- Position readout on clamp die adjustment speeds setup and allows values to be recorded in the control for future reference

**Typical Accessories**

- Three-position headshifter for multi-radius, multi-plane and compound bend applications. Capable of bending maximum diameter on all positions
- Position controlled pressure die assist for precise process control and repeatability
- Electric, programmed force clamp die actuator for extra clamping force and simplified setup
- Semiautomatic and fully automatic loaders include non-mandrel and over-the-mandrel versions
- Mandrel bending package and automatic mandrel lubricator
- Extended bed lengths available
- Push Bend feature for large radius bends

**Lightspeed Control Features**

- Open architecture PC-based control with menu-driven programs ensures easy programming, setup and operation
- Windows operating system provides maximum flexibility and programming versatility, while allowing for networkability
- 3D graphic rendering of the part shape provides quick verification of the current part configuration
- Stores thousands of different part shapes for instant access
- Interface with Eaton Leonard tube data center for closed-loop bender programming, data correction and off-line storage
- Feedrate override speed control provides 100 speed/velocity combinations on every axis for versatility

**Specifications**

- **Max. Tube O.D.**
  - 25.4 mm (1.0")
- **Max. Wall Thickness**
  - Mild Steel: 2.4 mm (.095")
  - Stainless Steel: 2.0 mm (.080")
- **Max. Centerline Radius**
  - 125 mm (5.0")
- **Centerline Height**
  - 25.4 mm (1.0")
- **Standard Tube Length Over Mandrel**
  - 1.50 m (5.0')
- **Maximum Bend Angle** 195º
- **Operating Speed**
  - Bend Arm Rotation: 50 RPM
  - Carriage Rotation: 100 RPM
  - Carriage Travel: 78"/min. (2000 IPM)

- **Repeatability**
  - Bend Arm: ± 0.05º
  - Carriage Rotation: ± 0.08º
  - Carriage Travel: ± 0.10 mm (± 0.004")

- **Machine Dimensions (Std.)**
  - Length: 3.29m (128")
  - Width: 1.0m (40")

* The maximum wall thickness is based on tubes at the maximum tube diameter bent on a 2X0 bend radius and a 3X0 mandrel. Carbon steel rating is based on 50,000 psi UTS and stainless steel is based on 55,000 psi UTS. Maximum rated capacities are estimates and bending applications may require the specifications should be reviewed by Eaton Leonard engineering. Please don't hesitate to contact us for additional assistance.

1.800.661.9983

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