

210 SYNCHRO BENDING MACHINE SPECIFICATIONS

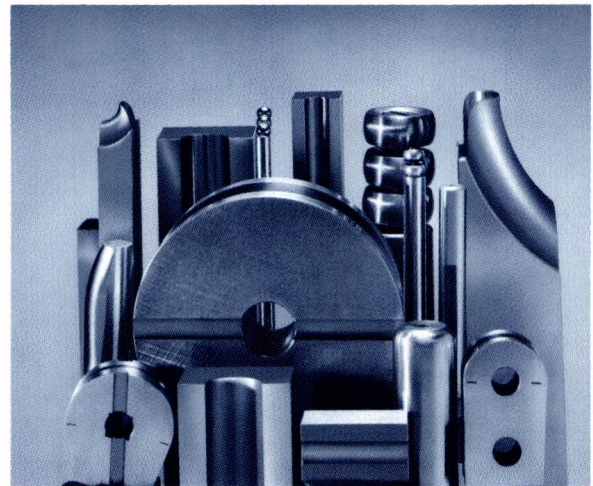
Capacity - Tube	2" (50mm) OD x .035" (.88mm) wall thickness x 3D minimum CLR or 1½" (37.5mm) OD x .065" (1.63mm) wall thickness x 2D minimum CLR
- Pipe	1" (25mm) OD x schedule 40 x 3D minimum CLR
Material - Tube	35,000 psi (930 MPa) yield, 35% elongation
- Pipe	ASTM A-587 or equivalent
Direction of Bend	Clockwise (Counter-clockwise rotation is available on special order)
Center Line Radius (CLR)	8" (200mm) standard, 12" (300mm) optional
Maximum Bend Arm Movement	195°
Maximum Over-Mandrel Tube Length	10 feet (3.0m) standard, longer lengths optional
Machine Floor Space	15 feet (4.5m) long x 44" (110 cm) wide x 49" (122.5 cm) high
Shipping Weight	1400 lbs. (636 kg) approximately

ACCESSORIES

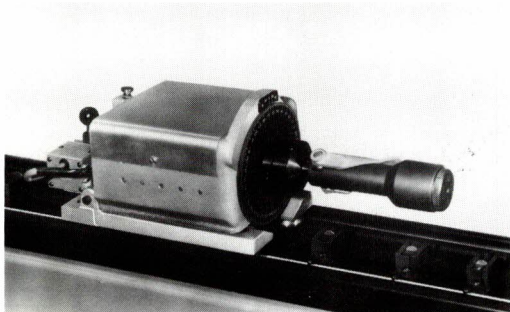
All necessary wrenches are included with the machine. Many accessories or options are available such as mandrel extractor, rail and carriage, wiper die bracket, pressure die assist, mandrel lubrication, air collet, manual or hydraulic clamping, etc.



210 Control. Three bend modes are available. They are manual, semi-automatic (with or without the carriage) and synco semi-automatic (with the carriage). The 210 controller has the capacity for 100 programs consisting of 1 to 10 bends (DOB's) per program.



Tooling. PHI is now a full-line supplier of bender tooling for not only PHI benders, but also for any other bender you might have. Let us give you a quotation.



Synchro Carriage. A 360° POB dial permits accurate POB settings. Disc stops on the carriage rotation ensure accurate POB positioning for each of the 10 presets. Settings for DBB are positioned on the rail for each of 10 bends. They are positive mechanical stops ensuring accurate location of bends. The standard tube-over-mandrel length is 10 feet. A collet chuck with special lever-type collet closer holds the tube or pipe firmly in place. To bend longer sections, extended bed lengths can be specified.



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PHI 210 SYNCHRO BENDING MACHINE



Synchronized bending machine with microprocessor controller for semi-automatic bends up to 2" OD

PHI's synchronized bending machine, Model 210, offers three-axis bending with one powered axis for the degree of bend (DOB). When configured as shown, the 210 provides high-speed production of simple and complex bent tube shapes up to 2" outside diameter (OD) and pipes up to 1" OD.

Our modular design — a basic machine with many options — allows each machine to be custom fitted to best meet your needs.

Any configuration of the 210 has a slim head and bed profile with spacious underbed clearance that minimizes bending interference.

PHI's user-friendly programmable digital controller, the DT5600, is specifically designed for bending and is logically laid out for proper bending sequencing. It has a capacity for 100 programs consisting of 1 to 10 bends (DOB's) per program.

The optional carriage allows mechanical presetting of up to 10 planes of bend (POB) and distance between bends (DBB). When incorporated with the DT5600 the machine will synchronize and interlock all three positions (POB, DOB and DBB) to ensure correct tube alignment before bending can occur. This ensures easily repeatable bent

tube shapes and scrap free production.

QUALITY OUTPUT. Perfect part duplication, scrap-free production, quality tooling, positive POB stops and DBB stops.

LABOR SAVINGS. Single set-up for multiple bend parts.

RELIABLE PERFORMANCE. Heavy-duty construction and extra-large electric motors.

PERFORMANCE-ENHANCING FEATURES. Precision PHI tooling to help reduce wall thinning and ovality. Synchronized interlock positioning for accurate, scrap-free parts.