

PIPE BENDING MACHINES "CENTURION"

For pipe from 22" O.D. (559 mm) to 36" O.D.(914 mm)



The New Centurion Bender offered by CRC-Evans is the next generation of the state-of-the-art Bending Machines. Following is a list of new features which truly highlight the superiority of our design.

Outboard cylinder travel is now 68% faster than our standard machine by improvement to the hydraulic system design.

Bending cylinder force is now 39% greater than standard machine by increased cylinder size and higher pressure rating.

Through re-engineering efforts a stronger frame was designed to now offer increased bending capacity. (See Sheet A6 for improved specifications)

* Hydraulic pump automatically adjusts output and pressure to engine horsepower, thus obtaining maximum benefit in speed and bending force under all conditions.

Rated pressure has been raised from 2200 psi to 2500 psi.

Newly supplied diesel engine designed for rugged dependability under all weather conditions.

The hydraulic system has a larger hydraulic tank and incorporates a hydraulic oil cooler allowing cooler hydraulic oil operating temperatures.

By mounting the engine and air compressor platform, (Air Compressor Optional) on the sides, the center of gravity is lower. This greatly increases stability of the machine.

The Stiff-back and tongue have been re-engineered to allow for mandrel storage.

Use of standard tie rod type bending cylinders for ease of maintenance and availability of parts.

* Optional Two Stage Pump Available.

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SPECIFICATIONS

For pipe from 22" (559 mm) to 36" (914 mm)

Model	PBS 22 - 36
NOMINAL PIPE DIAMETER inches (meters)	22 - 36 (559mm - 914mm)
POWER UNIT hp (kW)	DIESEL 142 hp (106 kW)
LENGTH feet (meters)	24' - 2" (7.37)
WIDTH feet (meters)	8' - 6" (2.59)
HEIGHT feet (meters)	8' - 10-1/2" (2.71)
NET WEIGHT (Complete)	46000 lb (20866 kg)
UNDERCARRIAGE	Tracks CRCE-15T
OUT-BOARD CYLINDER BORE X STROKE	Four - 9" x 19-1/4" (228mm x 489 mm)
IN-BOARD CYLINDER BORE X STROKE	Four - 7" x 5" (203mm x 127 mm)
HYDRAULIC SYSTEM MAX. OPERATING PRESSURE	2500 psi, (176 kg/cm ²)

EXTRA COST OPTIONS

(Available at time of manufacture)

power units to customer specifications.

Dual Tires or Tracks

Cold weather operating kit (-400C or F).

Electric Motor.

Hydraulic driven Air Compressor and Tank to operate pneumatic mandrel.

Gasoline Engine (as available).

Hydraulic power take-off for either a plug mandrel or a wedge mandrel.

Stationary base to replace undercarriage.

EXTRA COST ATTACHMENTS

Bending sets for out-of-range pipe.

Bending sets for specific coating.

Hydraulic power take-offs.

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PIPE BENDING DATA (US) 22" - 36" PIPE BENDING DATA - ALL DIMENSIONS IN INCHES

Nominal Pipe O.D.	Maximum Wall Thickness by Grade					Recommended Bend		
	in	X52	X60	X65	X70	X80	Degree Arc per Foot	Radius Feet
22	4.272	3.186	2.779	2.473	2.036	0.80	72	21.60
24	2.853	2.306	2,064	1.870	1.576	0.75	76	20.30
26	2.185	1.813	1.640	1.497	1.277	0.70	82	18.90
28	1.768	1.486	1.352	1.240	1.064	0.65	88	17.60
30	1.476	1.250	1.141	1.050	.906	0.60	95	16.20
32	1.259	1.072	.981	.904	.782	0.58	98	15.60
34	1.091	.932	.855	.789	.684	0.55	104	14.80
36	.957	.820	.753	.695	.604	0.50	115	13.50

Based on 85% efficiency and maximum strength = 1.2 x X# x 1000.

These figures are recommended only and do not constitute a warranty.

All bends shown include the use of CRC-Evans Bending Mandrels. The figures given are "average". They will vary due to :

The wall thickness of the pipe.

The actual (as opposed to the nominal) yield of the pipe.

Skill of the operator in handling the bending machine and the mandrel.

The origin of the pipe (pipe mill, plate mill, etc.) and quality of the pipe.

The type of pipe. Spiral seam pipe will normally accept only 75% of the recommended bend.

The type of die and/or bending set being used (e.g., polyurethane lining or special radius dies).

An unbent end (tangent) is produced at each end of the pipe where the pipe contacts the stiff back Normal unbend tangent for PB 22-36 is 6 feet.

PIPE BENDING MACHINES "CENTURION"

For pipe from 22" O.D. (559 mm) to 36" O.D.(914 mm)

PIPE BENDING DATA (METRIC)

559mm - 914mm (CENTURION) PIPE BENDING DATA - ALL DIMENSIONS IN MILLIMETERS

Nominal Pipe O.D.	Maximum Wall Thickness by Grade					Recommended Bend		
	mm	X52	X60	X65	X70	X80	Degree Arc per Meter	Radius Meters
559	108.51	80.93	70.59	62.81	51.72	39.3	21.95	21.60
610	72.48	58.57	52.43	47.49	40.03	38.0	23.16	20.30
660	55.51	46.04	41.65	38.03	32.43	37.9	24.99	18.90
711	44.90	37.74	34.33	31.49	27.04	37.7	26.82	17.60
762	37.49	31.75	28.99	26.67	23.00	38.0	28.96	16.20
813	31.97	27.22	24.91	22.97	19.87	36.7	29.87	15.60
864	27.71	23.68	21.70	20.04	17.37	36.7	31.70	14.80
914	24.31	20.82	19.11	17.66	15.34	38.3	35.05	13.50

Based on 85% efficiency and maximum strength = 1. 2 x X# x 1000.

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The actual (as opposed to the nominal) yield of the pipe.

Skill of the operator in handling the bending machine and the mandrel.

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