



Centurion Pipe Bending Machine 6-20"

A high-performance bending machine, Centurion is built to take on today's heavy-wall and high-yield pipe, as well as standard pipe where high productivity is required.

Part of CRC-Evans' High-Productivity Bending System, Centurion delivers 68% more travel speed and 82% more bending force than standard machines. Our bending machines feature outstanding hydraulics and quick-starting engines with reduced noise and cold start packages. A single operator is able to oversee all functions.

Highlights

- 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 82% faster than standard design. Increase is available due to new high capacity pump system.
- Bending cylinder force is now 82% 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.
- 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 2000 psi to 2500 psi.
- Newly supplied diesel engine designed for rugged dependability under all weather conditions.
- Our new higher capacity operating valve is now mounted lower, thus offering the operator easy access from the ground.
- Newly designed frame shape allows operator easy vision of die.
- 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.
- Rubber pad tracks for increased stability and towing base.

Note: Optional two stage pump available.

General Data

ENGINE		Units
Mfg	Deutz	
Model	F4L914	
Net Power	69/51	hp/kW
Speed	2,250 rpm	rpm
Number of	4	
Bore x Stroke	4.01x5.19/102x132	inch/mm
Displacement	263/4.3	cu.inch/l
Fuel Tank Capacity	30/113	gal/l



Control
Panel
6-20"

HYDRAULIC		Units
Pump Type	Fixed Volume,2	
Maximum Flow	48/184	gpm/lpm
Operating Pressure	2,500/170	psi/Bar
Valve Type	Manual	
No. Sections	3	
Relief Valves	3 + 1 Total	
	System Relief	
Filtration	100 Micron	
Hyd. Tank	60/228	gal/l

AIR MANDREL CONNECTIONS		
Qty.	1	
Size	3/4"	

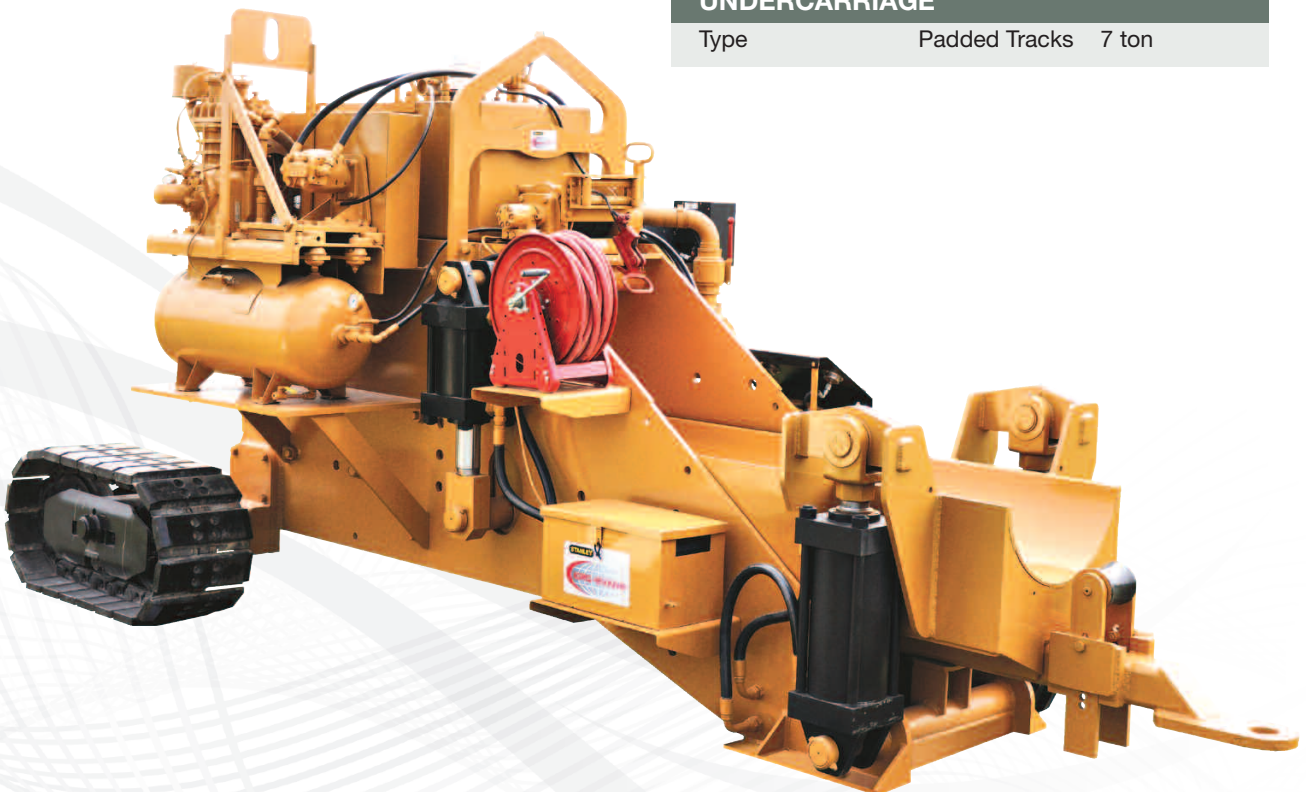
HYDRAULIC		Units
Outboard		
Bore	8/203	inch/mm
Stroke	14/356	inch/mm
Qty.	2	
Inboard		
Bore	8/203	inch/mm
Stroke	6/152	inch/mm
Qty.	2	
Pin Up		
Bore	4/102	inch/mm
Stroke	23/584	inch/mm
Qty.	1	

WINCH		Units
Type	Planetary	
Drive	Hydraulic	
Pulling Force	12,000/53	Lbf/kN
Cable Diamter	0.375/9.5	inch/mm

ELECTRICAL		Units
Voltage	12	VDC
No. Batteries	1	
Total Rating	190	Amp Hr @ 20
Alternator	55	Amp
Starter	3	kW

AIR COMPRESSOR		Units
Output	16.7/473	acfm/lpm
Pressure	200/13.6	psi/Bar
Drive Type	Hydraulic	

UNDERCARRIAGE		
Type	Padded Tracks	7 ton



Pipe Bending Data [Metric]

Nominal Pipe OD (Actual)	Maximum Wall Thickness by Grade					Recommended Bend		
mm	X52	X60	X65	X70	X80	Degree Arc (per meter)	Radius (meters)	Max degree per 12 meter joint
150 (168)	50.80	50.80	50.80	50.80	50.80	14.47	3.96	132.20
200 (219)	50.80	50.80	50.80	50.80	50.80	12.53	4.57	114.60
250 (273)	50.80	50.80	50.80	50.80	50.80	9.38	6.10	85.80
300 (324)	50.80	50.80	50.80	50.80	50.80	7.55	7.62	69.00
356	50.80	50.80	50.80	47.09	38.15	5.58	10.36	51.00
406	45.64	37.08	33.27	30.18	25.50	4.95	11.58	45.30
457	31.60	26.47	24.03	22.02	18.87	3.61	15.85	33.00
508	23.93	20.29	18.54	17.07	14.73	2.72	21.03	24.90
530	21.56	18.34	16.79	15.47	13.39	2.72	21.03	24.90

- 168mm - 530mm (CENTURION) PIPE BENDING DATA - ALL DIMENSIONS IN MILLIMETERS
- Based on 85% efficiency and maximum strength = $1.2 \times X\# \times 1000$.

Pipe Bending Data [Imperial]

Nominal Pipe OD (Actual)	Maximum Wall Thickness by Grade					Recommended Bend		
inch	X52	X60	X65	X70	X80	Degree Arc (per foot)	Radius (feet)	Max degree per 40 foot joint
6 (6 - 5/8)	2.000	2.000	2.000	2.000	2.000	4.41	13.00	132.20
8 (8 - 5/8)	2.000	2.000	2.000	2.000	2.000	3.82	15.00	114.60
10 (10 - 3/4)	2.000	2.000	2.000	2.000	2.000	2.86	20.00	85.80
12 (12 - 3/4)	2.000	2.000	2.000	2.000	2.000	2.30	25.00	69.00
14	2.000	2.000	2.000	1.854	1.502	1.70	34.00	51.00
16	1.797	1.460	1.310	1.188	1.004	1.51	38.00	45.30
18	1.244	1.042	0.946	0.867	0.743	1.10	52.00	33.00
20	0.942	0.799	0.730	0.672	0.580	0.83	69.00	24.90
20.866	0.849	0.722	0.661	0.609	0.527	0.83	69.00	24.90

- 6" - 20" (CENTURION) PIPE BENDING DATA - ALL DIMENSIONS IN INCHES
- Based on 85% efficiency and maximum strength = $1.2 \times X\# \times 1000$

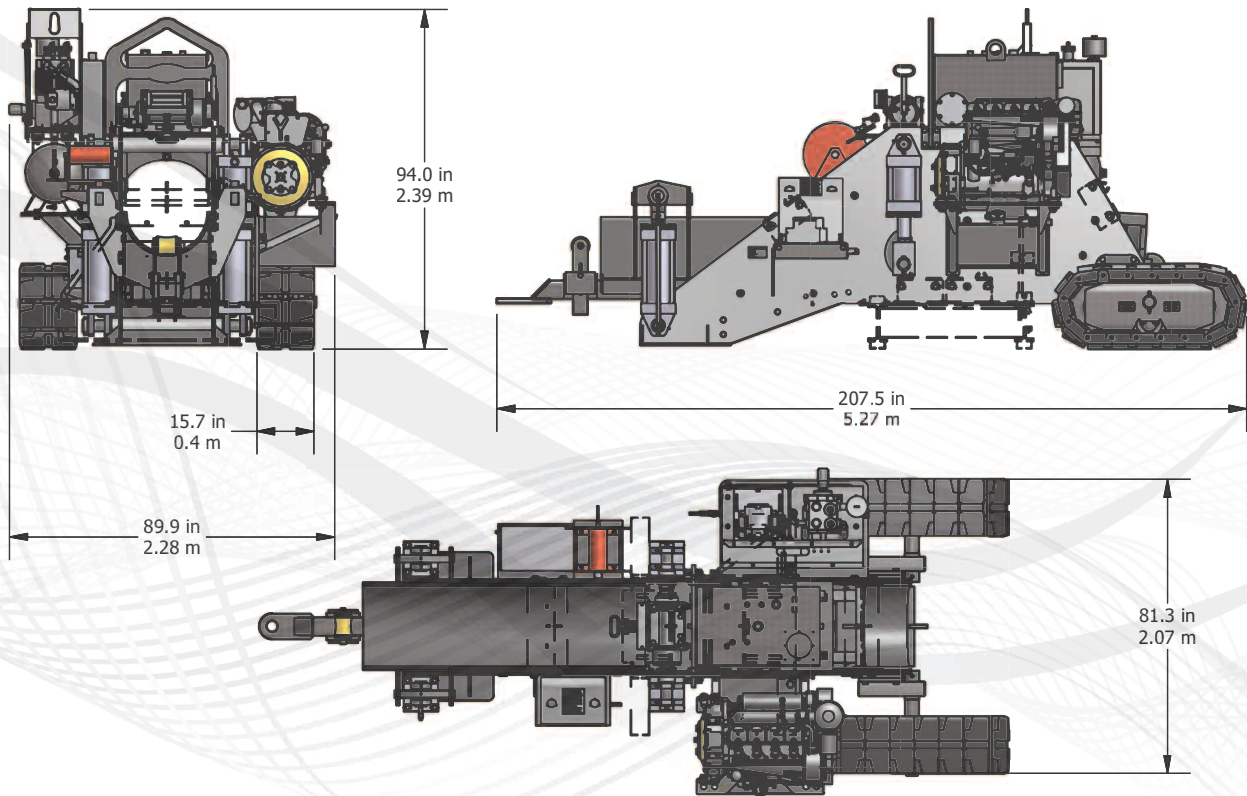
▲ Notes Bending Tables:

- For wall thickness greater than shown please contact CRC-Evans Engineering Department.
- 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 6-20 is 5 feet; PB 16-30 and PB 22-36 is 6-1/2 feet.
- Pipe is generally referred to by Nominal Pipe Size, but it will be noted that on sizes up to 12", the actual outside diameter is somewhat greater than the nominal size.

Dimensions and Weights

DIMENSIONS		Units
Length	207.5/5.27	inch/m
Width	89.9/2.28	inch/m
Height	94.0 / 2.39	inch/m

WEIGHT		Units
Shipping	12,500/5,669	lb/kg
Operating	13,500/6,122	lb/kg



Extra Cost Options [Factory Fitted Only]

- Power units to customer specifications.
- Electric Motor.
- Stationary base to replace undercarriage.
- Hydraulic power take-off for either a plug mandrel or a wedge mandrel.
- Cold weather operating kit [-40°C or F].

Extra Cost Attachments

- Bending sets for out-of-range pipe.
- Bending sets for specific coating.
- Bending belts [steel lined choker belts].
- Hydraulic power take-offs.

! Disclaimer

Pipe is generally referred to by Nominal Pipe Size, but it will be noted that on sizes up to 12", the actual outside diameter is somewhat greater than the nominal size.

Dimensions and weights provided for reference only. Dimensions and weights can vary depending upon final configuration of the equipment. Please contact CRC-EVANS to confirm final weights and dimensions prior to shipment.



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