



Centurion Pipe Bending Machine 22-36"

One source. One proven solution.

CRC-Evans is the industry's largest manufacturer of pipeline construction equipment. Designed in-house to precise customer specifications, our welding machines, pipe bending equipment, end prep equipment, clamps, padding/crushing equipment, weighting systems, and laybarge equipment have been used to complete more than 60,000 miles of pipeline in more than 100 countries.

CRC-Evans builds today's most comprehensive line of onshore and offshore pipeline construction equipment. All equipment is manufactured within a Quality Management System certified to the internationally recognized ISO 9001:2008 standard and CRC-Evans' own Quality Policy.

For pipe from 22" (559mm) to 36" (914mm). CRC-Evans state-of-the-art bending machines.

- Outboard cylinder travel is now 68% faster than our standard machine (increase due to improvement to hydraulic system design).
- Bending cylinder force is now 39% greater than standard machine (due to increased cylinder size and higher pressure rating).

- A stronger, re-engineered frame offers increased bending capacity.
- New diesel engine designed for rugged dependability in all weather conditions.
- New hydraulic system has a larger hydraulic tank and utilizes a hydraulic oil cooler to allow cooler hydraulic oil operating temperatures.
- Engine and air compressor platform (air compressor optional) are now side-mounted, lowering center of gravity and greatly increasing stability.
- Stiff back and tongue have been re-engineered to allow for mandrel storage.
- Optional two-stage pump.
- Optional Mandrel operation:
 - ▶ Pneumatic Mandrel with 3 section valve
 - ▶ Hydraulic Wedge Mandrel with 5 section valve



General Data

ENGINE		Units
Mfg	CAT-Perkins	
Model	C6.6	
Net Power	173/129	hp/kW
Speed	2,200	rpm
Number of	6	
Bore x Stroke	4.1x5.0/105x127	inch/mm
Displacement	402/6.6	cu.inch/l
Fuel Tank Capacity	85/322	gal/l

HYDRAULIC		Units
Pump Type	Fixed Volume	
Maximum Flow	60/230	gpm/lpm
Operating Pressure	3,000/207	psi/Bar
Valve Type	Manual	
No. Sections	3 or 5	
Relief Valves	1 for each section + 1 main relief	
Filtration	10 Micron	
Hydr. Tank	110/416	gal/l

HYDR. MANDREL CONNECTIONS	
Qty.	4
Size	3/4"

WINCH		Units
Type	Planetary	
Drive	Hydraulic	
Pulling Force	15,000/66	Lbf/kN
Cable Diamter	0.563/14	inch/mm

HYDRAULIC		Units
Outboard		
Bore	9/228	inch/mm
Stroke	19.25/489	inch/mm
Qty.	4	
Inboard		
Bore	7/179	inch/mm
Stroke	5/127	inch/mm
Qty.	4	
Pin Up		
Bore	6/152	inch/mm
Stroke	23/584	inch/mm
Qty.	1	

ELECTRICAL		Units
Voltage	12	VDC
No. Batteries	1	
Total Rating	190	Amp Hr @ 20 F
Alternator	100	Amp
Starter	3.3	kW

UNDERCARRIAGE		
Type	Track	30 ton

▼ Available with or without air compressor

AIR COMPRESSOR		Units
Output	29.2/827	acfm/lpm
Pressure	200/13.6	psi/Bar
Drive Type	Hydraulic	

Pipe Bending Data [Metric]

Nominal Pipe OD	Maximum Wall Thickness by Grade						Recommended Bend		
mm	X52	X60	X65	X70	X80	x100	Degree Arc (per meter)	Radius (meters)	Max degree per 12 meter joint
559	50.80	50.80	50.80	50.80	50.80	34.93	2.62	21.95	21.60
610	50.80	50.80	50.80	47.50	40.03	28.58	2.46	23.16	20.30
660	50.80	46.05	41.66	38.02	32.44	24.23	2.30	24.99	18.90
711	44.91	37.74	34.34	31.50	27.03	21.46	2.13	26.82	17.60
762	37.49	31.75	28.98	26.67	23.01	18.24	1.97	28.96	16.20
813	31.98	27.23	24.92	22.96	19.86	15.88	1.90	29.87	15.60
864	27.71	23.67	21.72	20.04	17.37	14.30	1.80	31.70	14.80
914	24.31	20.83	19.13	17.65	15.34	12.52	1.64	35.05	13.50

- 559mm - 914mm (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	Maximum Wall Thickness by Grade						Recommended Bend		
inch	X52	X60	X65	X70	X80	x100	Degree Arc (per foot)	Radius (feet)	Max degree per 40 foot joint
22	2.000	2.000	2.000	2.000	2.000	1.375	0.80	72.00	21.60
24	2.000	2.000	2.000	1.870	1.576	1.125	0.75	76.00	20.30
26	2.000	1.813	1.640	1.497	1.277	0.954	0.70	82.00	18.90
28	1.768	1.486	1.352	1.240	1.064	0.845	0.65	88.00	17.60
30	1.476	1.250	1.141	1.050	0.906	0.718	0.60	95.00	16.20
32	1.259	1.072	0.981	0.904	0.782	0.625	0.58	98.00	15.60
34	1.091	0.932	0.855	0.789	0.684	0.563	0.55	104.00	14.80
36	0.957	0.820	0.753	0.695	0.604	0.493	0.50	115.00	13.50

- 22" - 36" (CENTURION) PIPE BENDING DATA - ALL DIMENSIONS IN INCHES
- Based on 85% efficiency and maximum strength = $1.2 \times X\# \times 1000$

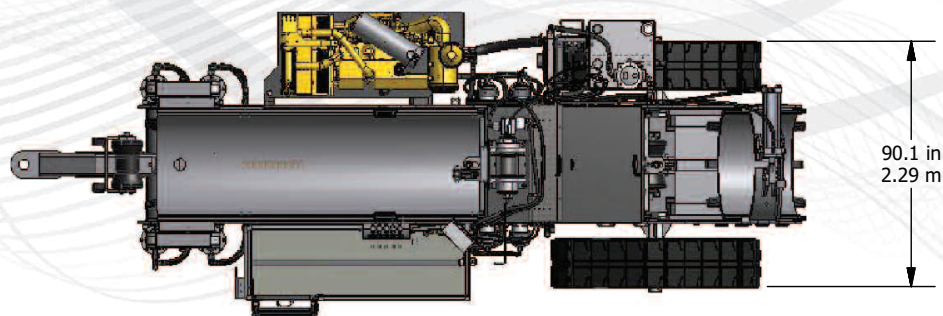
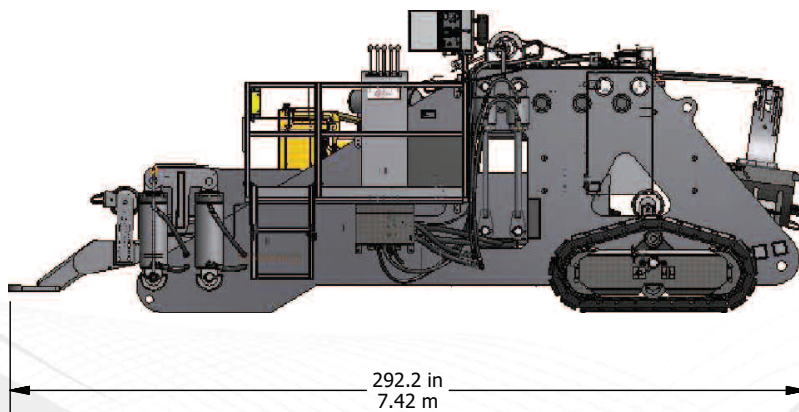
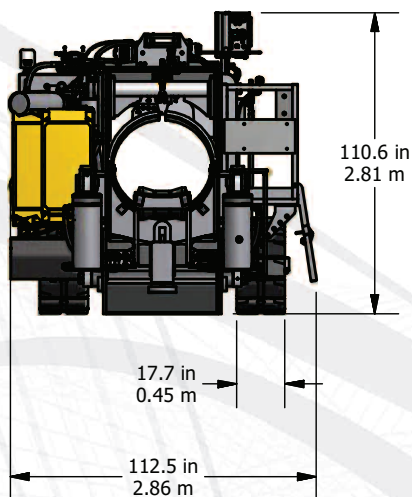
▲ Notes Bending Tables:

- For wall thickness greater than shown please contact CRC-Evans Engineering Department.
- Figures are recommendations only and do not constitute a warranty.
- All bends shown include the use of CRC-Evans bending mandrels. Figures given are "average" and will vary due to:
 - ▶ The wall thickness of the pipe.
 - ▶ Actual (as opposed to nominal) yield of the pipe.
 - ▶ Skill of the operator handling the bending machine and mandrel.
 - ▶ Origin of pipe (pipe mill, plate mill, etc.) and quality of pipe.
 - ▶ Type of pipe. Spiral seam pipe will normally accept only 75% of recommended bend.
 - ▶ 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.

Dimensions and Weights

DIMENSIONS		Units
Length	292.2/7.42	inch/meter
Width	112.5/2.86	inch/meter
Height	110.6/2.81	inch/meter

WEIGHT		Units
Shipping	46,160/20,934	lb/kg
Operating	47,160/21,387	lb/kg



Options

Available at time of manufacture against additional costs.

- Power units to customer specifications
- Electric motor
- Stationary base to replace undercarriage
- Dual tires or tracks
- Cold weather operating kit (-40°C or F)
- Hydraulic-driven air compressor and tank to operate pneumatic mandrel
- Hydraulic-power takeoff for either a plug mandrel or wedge mandrel

Extra Attachments

Available at time of manufacture against additional costs.

- Bending sets for out-of-range pipe
- Bending sets for specific coating
- Hydraulic-power takeoffs

! Disclaimer

Although great care has been taken in compiling the information contained in this catalogue, CRC-Evans does not accept responsibility for the consequences of any errors, nor for the effects of any subsequent changes made by the various sources of data.

Dimensions and weights provided for reference only. Dimensions, specifications 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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