

# PIPE BENDING MACHINES "STANDARD" For pipe from 6" (152 mm) to 36" (914 mm)



Hydraulic controls give one operator complete command of all machine operations from a convenient platform.

Hydraulically driven winch moves the pipe through the machine. Pipe moves easily on contoured rollers.

Calibrated stiff back indicator rod allows the operator to make consistently uniform bends.

Pin-Up clamp automatically grips the pipe to prevent distortion. This feature is not used on 6-20 size pipe bender.

Conversion to another pipe size within the machine range is made simply by fitting an alternative bending set.

Any CRC-Evans Pipe Bending Machine, in good condition, is capable of bending all grades of currently available API-5L pipe within its range.

The machine frame is constructed from selected quality steel to give long life without fatigue failure.

Unitized construction makes for easy maintenance and repairs.

The towing eye is attached to the hydraulically actuated stiff back and may be raised and lowered to facilitate attachment to the towing tractor.

The machine may be towed on the right-of-way by a suitable tractor, normally the side boom feeding the pipe to the bending machine.

For each pipe size to be bent, a Bending Set, a Bending Die, a Mandrel, and a Bending Belt are required.

# PIPE BENDING MACHINES "STANDARD" For pipe from 6" (152 mm) to 36" (914 mm)

## SPECIFICATIONS For pipe from 6" (168 mm) to 36" (914 mm)

Model	PB 6 - 20	PB 16 - 30	PB 22 - 36
NOMINAL PIPE DIAMETER inches (meters)	6.625 - 20 (168 - 508)	16 - 30 (406 - 762)	22 - 36 (559 - 914)
POWER UNIT hp (kW)	Diesel 34 (25)	Diesel 119 (89)	Diesel 142 (106)
LENGTH inches (meters)	13' - 4" (4.06)	22' - 8" (6.91)	24' - 2" (7.37)
WIDTH inches (meters)	6' - 4" (1.93)	8' - 4" (2.54)	8' - 6" (2.59)
HEIGHT inches (meters)	8' - 10" (2.69)	8' - 6" (2.59)	9' - 0" (2.74)
NET WEIGHT (COMPLETE) lb (kg)	9250 (4196)	28450 (12905)	38440 (17436)
UNDERCARRIAGE	Pneumatic Tires 11.0 X 16	Track Type CRCE-15T	Track Type CRCE-15T
OUT-BOARD CYLINDER BORE X STROKE	Two - 7" x 11" (178mm x 279mm)	Two - 9" x 19.25" (229mm x 489mm)	Two - 11" x 19" (279mm x 483mm)
IN-BOARD CYLINDER BORE X STROKE	Two - 7" x 6" (178mm x 152mm)	Two - 7" x 5" (178mm x 127mm)	Four - 7" x 5" (178mm x 127mm)
HYDRAULIC SYSTEM MAX. OPER. PRESSURE	2000 psi (141 kg/cm <sup>2</sup> )	2000 psi (141 kg/cm <sup>2</sup> )	2200 psi (155 kg/cm <sup>2</sup> )

All power unit ratings are "continuous horsepower @ 2,000 RPM".

### EXTRA COST OPTIONS (FACTORY FITTED ONLY)

Power units to customer specifications.

Electric Motor.

Gasoline engine (as available).

Stationary base to replace undercarriage.

Wheels to replace tracks PB 16-30, PB 22-36.

Tracks to replace wheels on PB 6-20.

Cold weather operating kit (-40°C or F).

Cab.

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

### EXTRA COST ATTACHMENTS

Bending sets for out-of-range pipe.

Bending sets for specific coating.

Hydraulic power take-offs.

Bending belts (steel lined choker belts).

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

# PIPE BENDING MACHINES "STANDARD"

## For pipe from 6" (152 mm) to 36" (914 mm)

### PIPE BENDING DATA (US) 6" - 36" PIPE BENDING DATA - ALL DIMENSIONS IN INCHES

Nominal Pipe O.D. in	Maximum Wall Thickness by Grade					Recommended Bend		
	X52	X60	X65	X70	X80	Degree Arc per Foot	Radius Feet	Max degree per 40 ft. joint
<b>PB 6 - 20</b>								
06-5/8	-	-	-	-	-	4.41	13	132.20
08-5/8	-	-	-	1.360	2.116	3.82	15	114.60
10-3/4	2.019	1.518	1.327	1.183	.976	2.86	20	85.80
12-3/4	1.037	.862	.780	.713	.608	2.30	25	69.00
14	.798	.673	.614	.564	.485	1.70	34	51.00
16	.573	.489	.448	.413	.358	1.51	38	45.30
18	.437	.375	.344	.318	.277	1.10	52	33.00
20	.347	.298	.274	.254	.221	0.83	69	24.90
<b>PB 16 - 30</b>								
16	3.243	2.391	2.079	1.847	1.517	1.51	38	40.80
18	1.908	1.558	1.400	1.272	1.077	1.10	52	29.70
20	1.380	1.156	1.050	.962	.824	0.90	64	24.40
22	1.072	.909	.830	.763	.658	0.80	72	21.60
24	.867	.740	.677	.625	.541	0.75	76	20.25
26	.720	.617	.566	.523	.454	0.70	82	18.90
28	.610	.524	.481	.445	.387	0.65	88	17.60
30	.525	.451	.415	.384	.335	0.60	96	16.20
<b>PB 22 - 36</b>								
22	2.068	1.704	1.537	1.400	1.190	0.80	72	21.60
24	1.598	1.340	1.218	1.117	.958	0.75	76	20.30
26	1.294	1.096	1.000	.920	.793	0.70	82	18.90
28	1.078	.918	.840	.775	.670	0.65	88	17.60
30	.917	.784	.719	.664	.576	0.60	95	16.20
32	.792	.679	.623	.576	.501	0.58	99	15.60
34	.692	.595	.546	.506	.440	0.55	104	14.80
36	.611	.526	.484	.448	.390	0.50	115	13.50

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

Blank spaces indicate unlimited wall thickness.

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.

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# PIPE BENDING MACHINES "STANDARD"

## For pipe from 6" (152 mm) to 36" (914 mm)

### PIPE BENDING DATA (METRIC) 6" - 36" PIPE BENDING DATA - ALL DIMENSIONS IN MILLIMETERS

Nominal Pipe O.D.	Maximum Wall Thickness by Grade						Recommended Bend			
	mm	X52	X60	X65	X70	X80	RATIO Radius to O.D.		Radius Meters	Max degree per 12 meter joint
m/m							deg/m			
<b>PB 6 - 20</b>										
168	-	-	-	-	-	23.6	14.5	3.96	132.20	
219	-	-	-	34.54	53.75	20.9	12.5	4.57	114.60	
273	51.29	38.57	33.72	30.04	24.78	22.3	9.4	6.10	85.80	
324	26.33	21.88	19.81	18.10	15.45	23.5	7.5	7.62	69.00	
356	20.28	17.10	15.58	14.32	12.31	29.1	5.6	10.36	51.00	
406	14.56	12.42	11.37	10.49	9.08	28.5	5.0	11.58	45.30	
457	11.11	9.53	8.75	8.09	7.03	34.7	3.6	15.85	33.00	
508	8.81	7.58	6.97	6.45	5.62	41.4	2.7	21.03	24.90	
<b>PB 16 - 30</b>										
406	82.36	60.72	52.81	46.90	38.53	28.5	5.0	11.58	40.80	
457	48.47	39.58	35.57	32.32	27.36	34.7	3.6	15.85	29.70	
508	35.06	29.36	26.67	24.44	20.94	38.4	3.0	19.51	24.40	
559	27.24	23.08	21.07	19.39	16.72	39.3	2.6	21.95	21.60	
610	22.03	18.79	17.21	15.87	13.74	38.0	2.5	23.16	20.25	
660	18.30	15.67	14.38	13.28	11.53	37.9	2.3	24.99	18.90	
711	15.50	13.31	12.23	11.31	9.83	37.7	2.1	26.82	17.60	
762	13.33	11.46	10.54	9.76	8.50	38.4	2.0	29.26	16.20	
<b>PB 22 - 36</b>										
559	52.53	43.28	39.03	35.57	30.23	39.3	2.6	21.95	21.60	
610	40.59	34.05	30.95	28.37	24.33	38.0	2.5	23.16	20.30	
660	32.86	27.83	25.40	23.37	20.15	37.9	2.3	24.99	18.90	
711	27.38	23.32	21.35	19.678	17.03	37.7	2.1	26.82	17.60	
762	23.28	19.91	18.26	16.86	14.62	38.0	2.0	28.96	16.20	
813	20.11	17.24	15.83	14.62	12.72	36.7	1.9	29.87	15.60	
864	17.58	15.10	13.88	12.84	11.17	36.7	1.8	31.70	14.80	
914	15.52	13.35	12.28	11.37	9.90	38.3	1.6	35.05	13.50	

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