



## SPB 6-20 Pipe Bending Machine

Operating weight	11,244 lbs / 5,100 kg
Max. Operating Pressure	3,480 p.s.i. / 240 bar
Horsepower	42 HP (with Cat engine)



## SPB 6-20 PIPE BENDER

### *ABOUT THE SPB 6-20*

The renewed pipe bending machine SPB 6-20 belongs to the "Millennium Series" fleet, which is the new generation of SUPERIOR pipe benders. Despite its simplicity this machine guarantees high performance in terms of speed and push.

The frame is made of high quality steel, and the parts mostly subject to stresses have been ribbed and boxed to ensure maximum resistance, though keeping the machine weight as light as possible.

The hydraulic system has 5 spools; the fifth spool may be used to control the hydraulic mandrel, if fitted. The separate valves enable the operator to set the mandrel pressure independently from the machine.

The hydraulic cylinders are sized in such a way that they can operate with pressures exceeding 300 bar.

The diesel engine is in a fully insulated and hinged compartment, which swings open and enables the operator to gain access to the engine for maintenance purposes. The SPB 6-20 Millennium Series is installed on rubber wheels, which make its travel easy on any job site, although it is undoubtedly the best solution, especially in small- and medium-sized projects.



# SPECIFICATIONS

## ENGINE

### Option 1: Caterpillar (default engine)

Model	C-2.2
Net flywheel power (DIN 6271)	42 HP
Governed speed	2,600 rpm
Displacement	2.2 liters
Number of cylinders	4
Sound proofing type	Yes

### Option 2: Perkins

Model	404D-22T
Net flywheel power (DIN 6271)	49 HP
Governed speed	2,200 rpm
Displacement	2.18 liters
Number of cylinders	4
Bore x stroke	88 x 90 mm
Sound proofing type	Yes

## HYDRAULIC PUMP

Type	Gear Pump
Maximum flow rate	26 U.S. gal/min - 100 lt/min
Maximum constant pressure	3,626 p.s.i. / 250 bar
Maximum peak pressure	4,351 p.s.i. / 300 bar

## CONTROL VALVE

Brand	Walvoil
Type	Direct acting sectional valve block
Spools	N.5

## HYDRAULIC OIL TANK

Type	Metal work with filter
Capacity	30 U.S. gal / 112 lt
Cartridge type	Donaldson

## FUEL TANK

Type	Metal work with filter
Capacity	23 U.S. gal / 88 lt

## HYDRAULIC WINCH

Type	Hydraulic winch
Maximum pull at first layer	9,700 lbs / 4,400 kg
Hydraulic motor	Orbital DANFOSS
Frame	Aluminum allow + ductile cast iron
Reduction gear	With worm screw, irreversible
Neutral	Manual
Maximum operating pressure	2,030 p.s.i. / 140 bar
Maximum feed flow rate	16 U.S. gal/min - 60 lt/min
Speed at first layer	16 ft/min - 4,85 m/min
Recommended cable diameter	1/2 inch / Ø 10 mm
Wire rope type	6 strands with textile core
	R=2,160 N/mm <sup>2</sup> min. breaking load guaranteed 15,700 kg

## SPOOLS

### Spool 1: Out-board and in-board cylinders, clamps

Maximum flow	26.4 U.S. gal/min - 100 lt/min
Pressure	3,480 p.s.i. / 249 bar

### Spool 2: Wedge cylinder

Maximum flow	26.4 U.S. gal/min - 100 lt/min
Pressure	3,480-1,305 p.s.i. / 90-240 <sup>1</sup> bar

### Spool 3: Winch

Maximum flow	26.4 U.S. gal/min - 100 lt/min
Pressure	2,320 p.s.i. / 160 bar

### Spool 4: Auxiliary control 1

Maximum flow	26.4 U.S. gal/min - 100 lt/min
Pressure	2,320 p.s.i. / 160 <sup>2</sup> bar

### Spool 5: Auxiliary control 2

Maximum flow	26.4 U.S. gal/min - 100 lt/min
Pressure	1,450 p.s.i. / 100 <sup>2</sup> bar

<sup>1</sup> Cylinder out / in pressure

<sup>2</sup> Adjustable

# FEATURES



## OPERATOR'S PLATFORM

The position of the piloting platform and the engine compartment on opposite sides make this machine unique in terms of operating comfort and guarantee maximum visibility and low noise levels to the operator.



## HYDRAULIC WINCHES

The hydraulic winches have a pulling capacity ranging from 3,000 to 10,000 Kg. The free drum control is located in the control panel on the operator's platform.

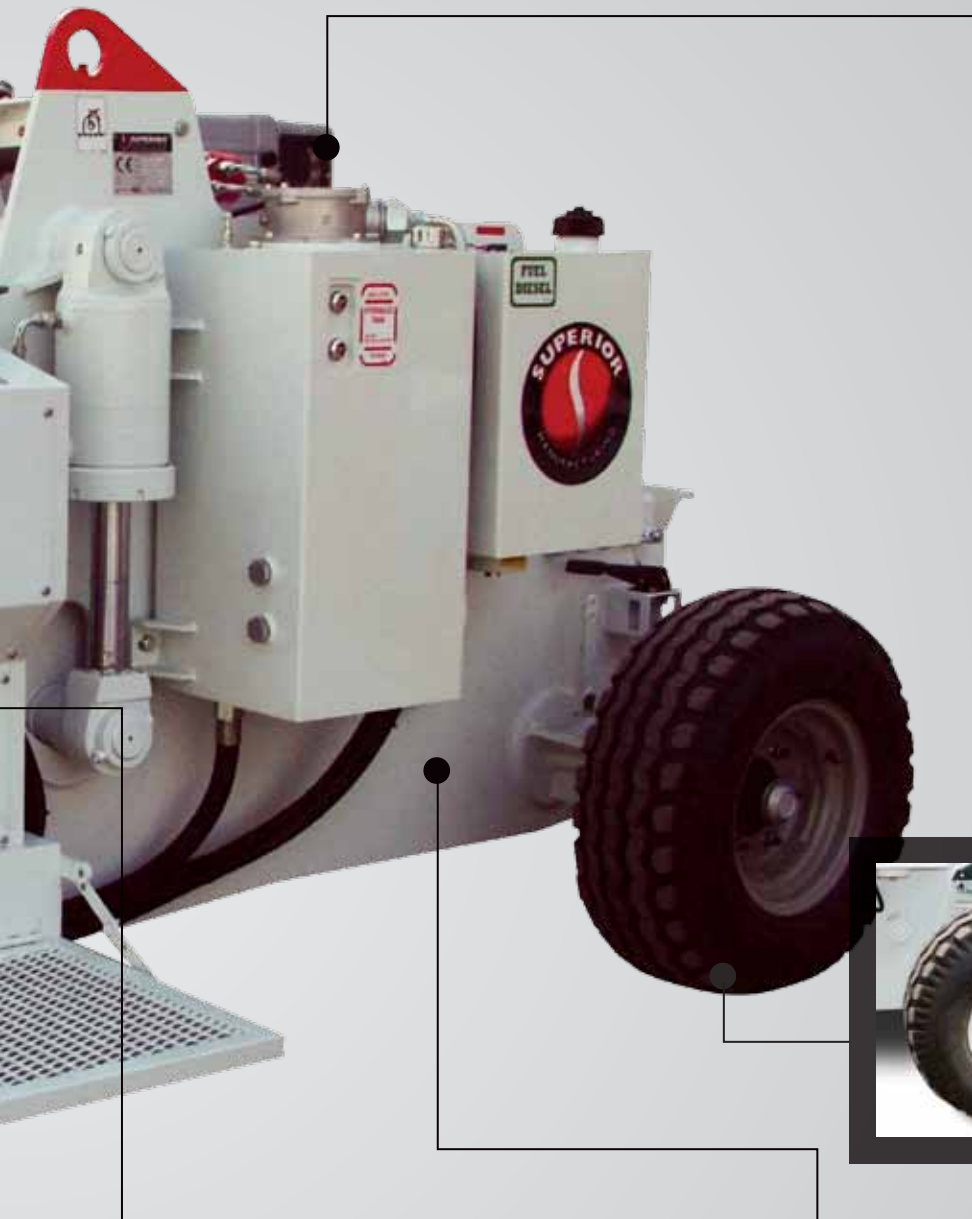


## HYDRAULIC SYSTEM

New operator friendly hydraulic system with a load-sending variable pump and a five-spool proportional valve, allowing much safer, faster and more precise control of movements. The new valve which was only recently introduced to the market allows the regulation of the pressure and the capacity of each function according to its purpose.

The hydraulic system features high quality components manufactured by Mannesmann Rexroth or Parker-Voac. All these components contribute to higher productivity and a reduction in power consumption.

The Millennium Series also has stronger hydraulic cylinders that have been tested to work at high pressures. The cylinders have molybdenum chromium-plated steel piston rods with components made to bear high pressure to 6,000 PSI.



### ENGINE

A choice of Caterpillar or Perkins diesel engines, both of which have many reliable and modern features, such as the water pump, integrated filtration system, and self-stretching fan towing seals.

The engine is enclosed in a sound reducing box and is located on the side opposite the operator.

It also complies with recent anti-pollution requirements in all of the industrialized nations. The engine compartment is cleverly designed to swing open to allow easier access to the engine for maintenance.



### WHEELS

The SPB 6-20 is the only pipe bending machine in the Millennium Series that is mounted on tires which makes it perfect for small to medium sized jobs.

### ROLLERS

Pipe drive rollers are mounted on non-friction bearing and coated with 90 SH polyurethane for smoother handling of the pipe.



### FRAME

The main frame is built with high quality steel plate and box-section design. This makes the machine stronger and more resistant to stresses, thus permitting bending of pipes with very high tensile strength.



## BENDING DATA

### U.S.

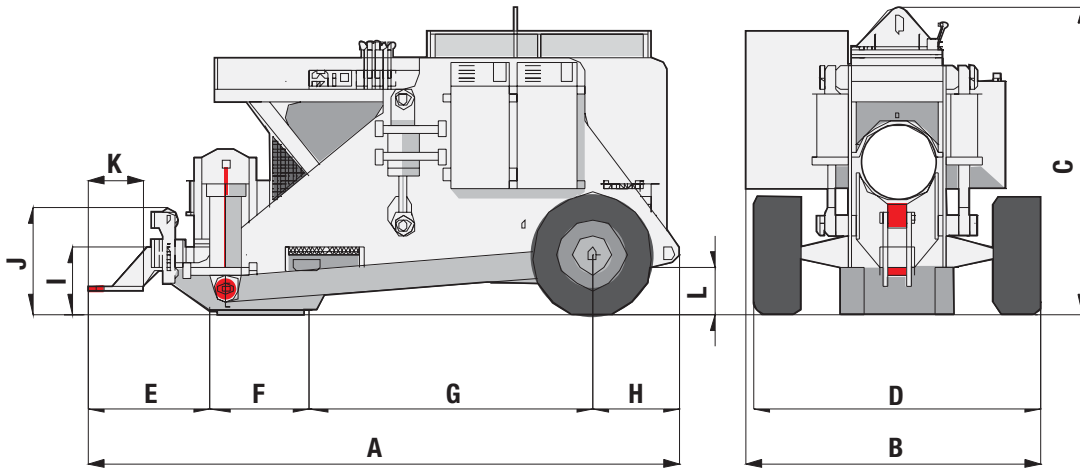
Pipe O.D. inch	Maximum Wall Thickness By Grade (Inch)							Recommended Bend		
	X52	X56	X60	X65	X70	X80	X100	Degree per Arc Foot	Radius Feet	Max Degree Per 40 Feet
6	2	2	2	2	2	2	2	4.41	13	132.30
8	2	2	2	2	2	2	2	3.82	15	114.60
10	2	2	2	2	2	2	2	2.86	20	85.80
12	2	2	2	2	2	2	1-7/16	2.30	25	69.00
14	2	2	1-3/4	1-5/8	1-7/16	1-3/16	7/8	1.70	34	51.00
16	1-3/8	1-1/4	1-1/8	1-1/16	15/16	13/16	5/8	1.51	38	45.30
18	1	7/8	13/16	3/4	11/16	9/16	7/16	1.10	52	33.00
20	3/4	11/16	5/8	9/16	1/2	7/16	3/8	0.83	69	24.90

### METRIC

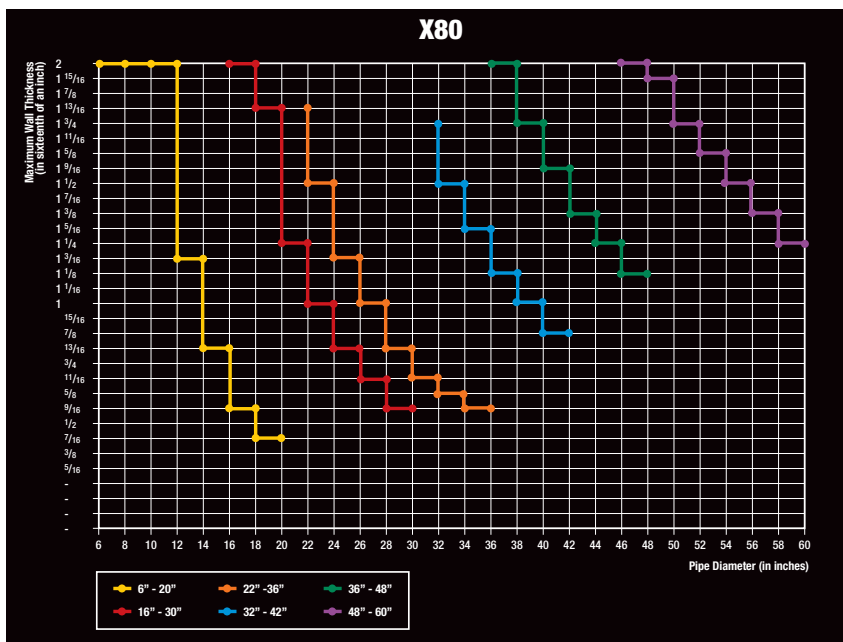
Pipe O.D. inch/mm	Maximum Wall Thickness By Grade (Inch)							Recommended Bend		
	X52	X56	X60	X65	X70	X80	X100	Ratio Radius: O.D.	Radius Meter	Max Degree Per 12 Meters
6 / 168	50.80	50.80	50.80	50.80	50.80	50.80	50.80	4.41	13	132.30
8 / 219	50.80	50.80	50.80	50.80	50.80	50.80	50.80	3.82	15	114.60
10 / 273	50.80	50.80	50.80	50.80	50.80	50.80	50.80	2.86	20	85.80
12 / 324	50.80	50.80	50.80	50.80	50.80	50.80	36.52	2.30	25	69.00
14 / 355.6	50.80	50.80	44.45	41.28	36.52	30.17	22.23	29.1	10.36	51.00
16 / 406.4	34.93	31.75	28.58	26.99	23.82	20.64	15.88	28.5	11.58	45.30
18 / 457.2	25.40	22.23	20.64	19.05	17.47	14.29	11.12	34.7	15.85	33.00
20 / 508	19.05	17.47	15.88	14.29	12.70	11.12	9.53	41.4	21.03	24.90

# DIMENSIONS

Operating weight 11,244 lbs / 5,100 kg



	Feet	Meters
A Overall length	13.5 ft	4.1 m
B Overall width	6.8 ft	2.08 m
C Height	6.25 ft	1.9 m
D Width to outside of wheels	6.7 ft	2.05 m
E Length of front section	2.85 ft	87 cm
F Length of undercarriage touching the ground	2.25 ft	68 cm
G Length of middle section	6.4 ft	1.94 m
H Length of rear section	2 ft	61 cm
I Height to bottom of cradle	1.5 ft	45.5 cm
J Height to top of roller	2.4 ft	71.5 cm
K Length of hitch	1.3 ft	40 cm
L Ground clearance	1 ft	30 cm
Track weight (loose pair) 4,000 lbs / 1,800 kg		



## BENDING STRENGTH

Here's an example of our pipe bending machines high bending strength. The bending performance data shown was calculated using **API X80** as an example. The machine is capable of bending all grades of currently available API-5L pipe within its range.



## AVAILABLE MODELS



SPB 6-20 Millennium Series



SPB 16-30 Millennium Series



SPB 22-36 Millennium Series



SPB 32-42 Millennium Series



SPB 36-48 Millennium Series



SPB 48-60 Millennium Series

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