

Sharp machine tools

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HYDRAULIC PLATE ROLLS

- All three rolls are powered
- Hardened & ground rolls
- Wire grooved rolls
- Hydraulic rotation
- Hydraulic prebend
- Hydraulic roll tilt
- Electronic digital readout
- Remote control console



These machines are of initial pinch design and can pre-bend the edges of the workpiece for rolling or curving metal plates into cylindrical

forms. The hydraulic pre-bend can provide a nearly perfect circle by reversing the workpiece after pre-bending. The top roll swings open to allow removal of the finished workpiece.

The rolls are arranged in asymmetrical form with the top roll being fixed in height. The bottom or pinch roll adjusts up and down to clamp different thicknesses of material. The rear or pre-bending roll is hydraulically raised to pre-bend and form the selected radius. This function is controlled by push buttons on the remote console. The speed rate of the prebend is infinitely variable. Push buttons also control hydraulic tilting of the pre-bending roll to allow for conical work.

All three rolls are hydraulically rotated which allows instant stopping for accuracy. An electronic digital readout displays the position of the prebending roll to allow accurate repositioning for multiple workpieces. All rolls are hardened to RC55 and are machined with three round grooves to permit rolling round bars. The top roll is a precision ground cylinder, while the bottom roll and pre-bending roll are crowned in the center.

Model 0660 6 ft 1/4 inch rolls:

Roll speed 2.25 M/minute Roll diameter 180mm

5HP, 220V 3 phase Shipping Dimensions: 3250x1200x1530 LWH (mm) 2900KG

UNION Model 0660 Some examples of capacities:

UNION MODEL	Roll Speed	Top roll Diameter	Capacity with Pre-Bending at 3 x top roll diameter	Maximum Rolling capacity at 5 times top roll diameter	Maximum Pre-Bend capacity 5 ft rolling length and 1.5 times top roll diameter
0660	7.4 ft/min.	7.1" 180mm	6 feet of 1/4" plate	6 feet of 5/16" plate	5 feet of 1/4" plate

Will roll 1/4" plate 6 ft long to 3 x top roll diameter (35.4")

Will roll 5/16" plate 5 ft long to 5x top roll diameter (35.4")

Will roll 3/8 plate 4 ft long to 5x top roll diameter (35.4")

Will roll 1/4" plate 5ft long to 1.5x top roll diameter (10.7")

* Nominal capacity only

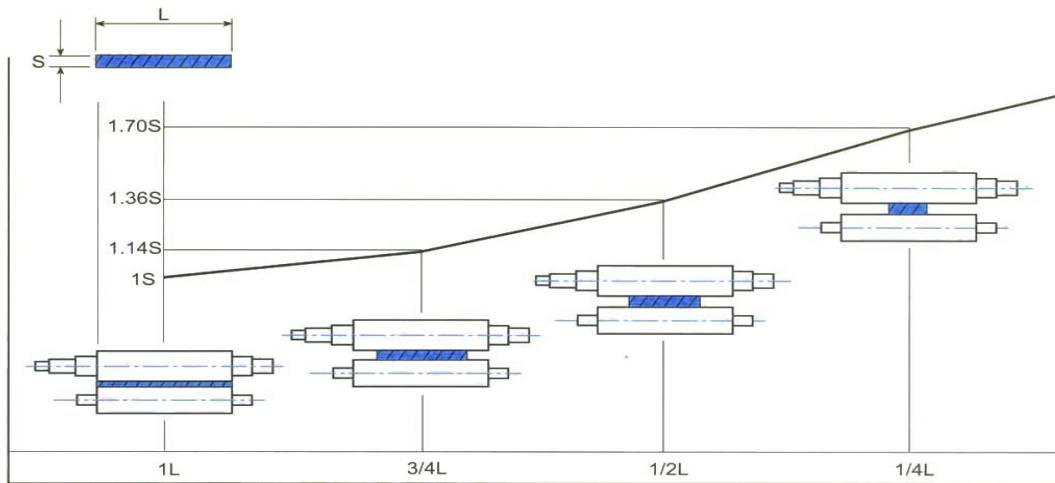
** For A-36 plate 60,000 PSI tensile, full width rolling. If narrower material is rolled, the maximum thickness can be greater.

Specifications are subject to change.

UNION Hydraulic Plate Roll Capacities

UNION plate roll ratings are based on length and thickness capacities in A36 mild steel plate, with the thickness rating corresponding to a minimum pre-bend diameter of approximately 1.6 times the diameter of the top roll. When rolling material to larger diameters, the capacity is increased. For instance, when rolling material to a diameter of 5 times the top roll diameter, the rolling capacity can be **increased** by approximately 1.5 times the stated pre-bending capacity. When rolling cones using the tilted-roll or one-edge-slipping method, rolling capacity should be **decreased** to 66% of pre-bending capacity.

Plate roll capacities are nominal and subject to a wide range of variables. Increased rolling thickness with reduced rolling length can be calculated as below, with **S** equaling material thickness and **L** equaling material length.



Some examples of capacities:

UNION MODEL and top roll diameter	Rated Capacity	Maximum Rolling capacity at 5 times top roll diameter	Pre-Bend Capacity at 1.5 times top roll diameter	Maximum Pre-Bend capacity at ¾ rated rolling length and 1.5 times top roll diameter	Maximum Pre-Bend capacity at ½ rated rolling length and 1.5 times top roll diameter
O535, 120mm	5 feet, 3.5mm (0.140")	5 feet, 5.3mm (0.2")	5 feet, 3.5mm (0.140")	3.75 feet, 4mm (0.15")	2.5 feet, 4.75mm (0.187")
O465, 150mm	4 feet, 6.5mm (0.256")	4 feet, 10 mm (0.375")(3/8")	4 feet, 6.5mm (0.256")	3 feet, 7.4mm (0.292")	2 feet, 8.8mm (0.348")
1550x6/O575 180mm	5 feet, 7.5mm(5/16")	5 feet, 10mm (0.375")(3/8")	5 feet, 7mm (.275")	3.75 feet, 8mm (5/16")	2.5ft, 10mm (.375")(3/8")
O660 180mm	6 feet, 6mm (0.236")	6 feet, 7.5mm (5/16")	6 feet, 6mm (0.236")	54" 6.5mm (1/4"+)	3 feet, 6.8mm (1/4"+)
O803, 150mm	8 feet, 3mm (0.118")	8 feet, 4.5mm (0.179") 8ga.	8 feet, 3mm (0.118")	6 feet, 3.42mm (0.135") 10ga.	4 feet, 4.08mm (0.160")
1030, 180mm	10ft, 3mm (0.118")	10ft, 4.5mm (0.177") 8ga	10ft, 3mm (0.118")	7.5ft, 3.42mm (0.135") 10ga	5 feet, 4.03mm (0.160")
O805, 205mm Double pinch	8 feet, 5mm(0.2")	8 feet, 7.5mm (0.29")	8 feet, 5mm(0.2")	6 feet, 5.7mm (0.224")	4 feet, 6.8mm (0.267")
1004,205mm Double pinch	10ft, 4.5mm (0.177") 8ga.	10ft, 6.75mm (0.26") ¼"+	10ft, 4.5mm (0.177")	7.5ft, 5.13mm 0.202" (3/16")+	5 feet, 6.09mm (0.239") 3ga.
1005, 230mm Double Pinch	10 feet, 5mm (0.2")	10 feet, 7.5mm (0.29") ¼" +	10 feet, 5mm(0.2")	7.5 feet, 5.7mm (0.224")	5 feet, 6.8mm (0.267")

UNION strives for honesty in its plate roll ratings. When comparing different brands of rolls, a basic rule of thumb is that plate rolls with the same top roll diameter will generally have the same bending capacities.