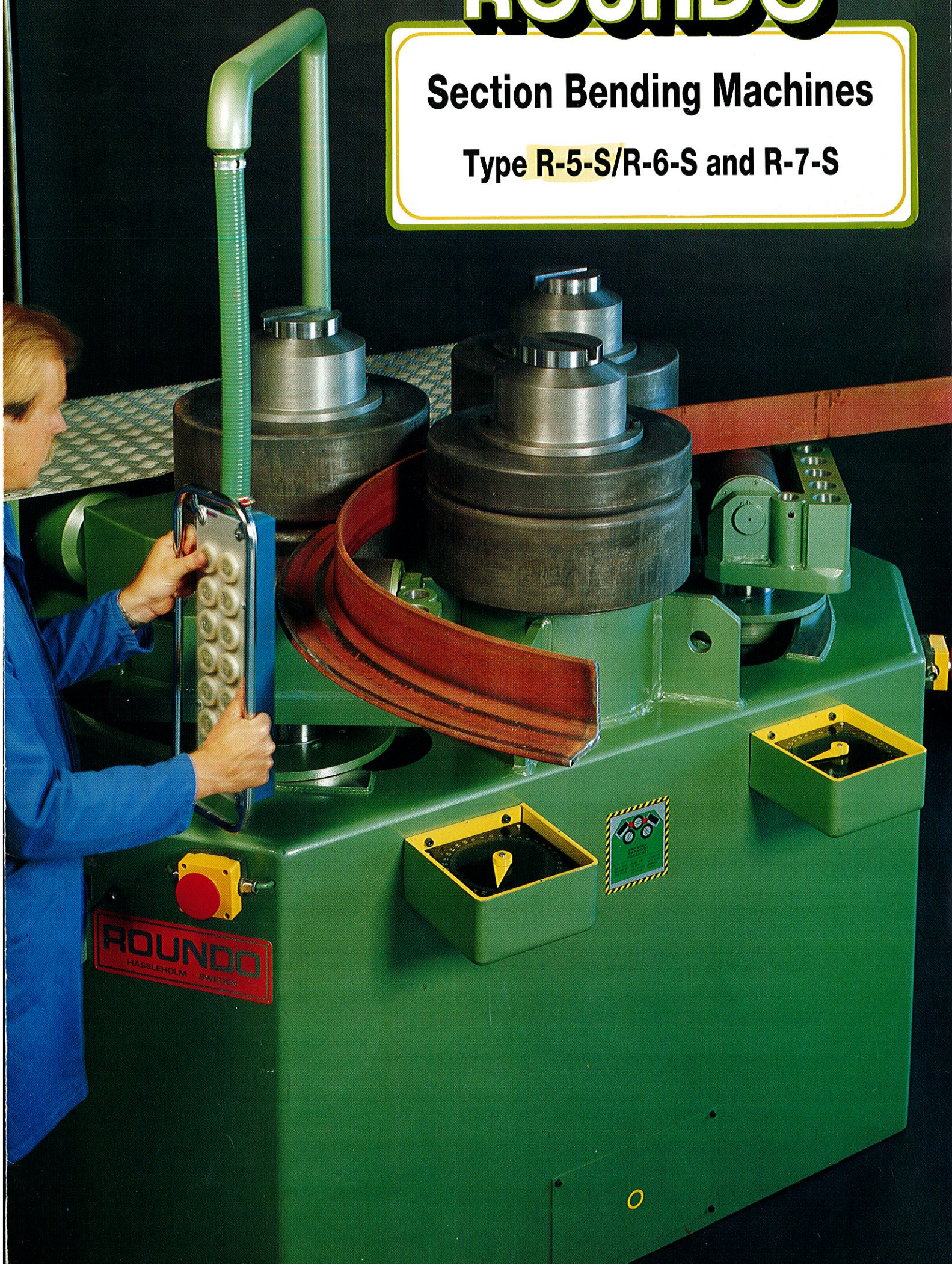


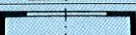
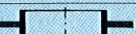
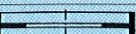
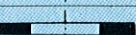
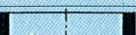
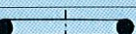
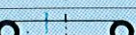
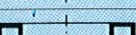
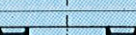
ROUND O

Section Bending Machines

Type R-5-S/R-6-S and R-7-S

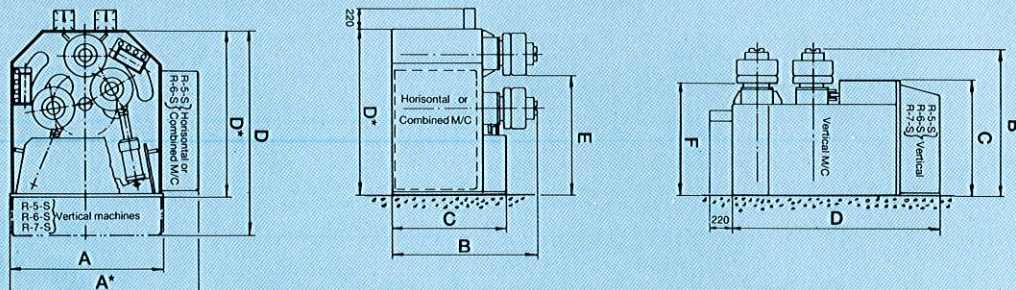


Capacities and Specifications

Section	R-5-S		R-6-S		R-7-S	
	With standard rolls	With special rolls	With standard rolls	With special rolls	With standard rolls	With special rolls
	Max 120 x 12 Min 35 x 3	¹⁾ To Ø 1250 To Ø 430	Small profiles to min Ø: 310 mm	Max 150 x 16 Min 40 x 4	¹⁾ To Ø 2000 To Ø 600	Min 20 x 3 To Ø 360 mm
	Max 100 x 12 Min 35 x 3	To Ø 1250 To Ø 600	" 400 mm	Max 120 x 15 Min 40 x 4	To Ø 1200 To Ø 800	Min 20 x 3 To Ø 500 mm
	Max 120 x 13 Min 20 x 3	To Ø 1250 To Ø 400	" 310 mm	Max 140 x 15 Min 25 x 3	To Ø 1200 To Ø 480	Min To Ø 360 mm
	Max 100 x 11 Min 20 x 3	To Ø 1250 To Ø 400	" 350 mm	Max 120 x 13 Min 25 x 3	To Ø 1200 To Ø 480	Min To Ø 400 mm
	Max 140 x 15 Min 20 x 3	To Ø 1000 To Ø 400	" 310 mm	Max section modulus 100 cm ³		Max section modulus 185 cm ³
	Max 100 x 30 Min 30 x 5	To Ø 1000 To Ø 400	" 310 mm	Max 120 x 40 Min 30 x 5	To Ø 1000 To Ø 470	Min To Ø 360 mm
	Max 250 x 30 Min To Ø 1000 To Ø 400		" 310 mm	Max 250 x 40 Min To Ø 1000 To Ø 480		Max 350 x 50 To Ø 900 To Ø 580
	Max 50 x 50 Min To Ø 650 To Ø 400		Max 65 x 65 Min To Ø 650 mm To Ø 310 mm	Max 60 x 60 Min To Ø 600 To Ø 460	Max 85 x 85 Min To Ø 1000 mm To Ø 360 mm	Max 75 x 75 Min To Ø 750 To Ø 580
	Small profiles	Max Ø 70 Min To Ø 700 mm To Ø 310 mm	Small profiles	Max Ø 100 Min To Ø 1000 mm To Ø 360 mm	Small profiles	Max Ø 110 Min To Ø 400 mm To Ø 400 mm
	Small profiles	Max OD 100 Min To Ø 1000 mm To Ø 310 mm	Small profiles	Max OD 120 Min To Ø 1200 mm To Ø 360 mm	Small profiles	Max OD 160 Min To Ø 1500 mm To Ø 400 mm
	Max 100 x 50 x 5,6 Min To Ø 3000 To Ø 500	Max 90 x 90 x 5 Min To Ø 2800 mm To Ø 500 mm	Max 100 x 60 x 6,3 Min To Ø 3000 To Ø 700	Max 100x100x10 Min To Ø 3000 mm To Ø 700 mm	Max 140 x 70 x 8 Min To Ø 3500 To Ø 1000	Max 140x140x8 Min To Ø 3500 mm To Ø 1000 mm
	Small profiles	Max INP 200 Min To Ø 900 mm To Ø 500 mm	Small profiles	Max INP 300 Min To Ø 1100 mm To Ø 600 mm	Small profiles	Max IPE 330 Min IPE/INP 80 To Ø 1500 mm To Ø 700 mm
	Small profiles	Max HEB 120 Min To Ø 1500 mm To Ø 500 mm	Small profiles	Max HEB 160 Min To Ø 2000 mm To Ø 600 mm	Small profiles	Max HEB 200 Min To Ø 2400 mm To Ø 700 mm
	Small profiles	Max UNP 200 Min To Ø 900 mm To Ø 500 mm	Small profiles	Max UNP 300 Min UNP 60 To Ø 1100 mm To Ø 480 mm	Small profiles	Max UNP 320 Min UNP 80 To Ø 1200 mm To Ø 600 mm
	Small profiles	Max UNP 200 Min To Ø 1200 mm	Small profiles	Max UNP 300 Min UNP 60 To Ø 1600 mm To Ø 480 mm	Small profiles	Max UNP 320 Min UNP 80 To Ø 1800 mm To Ø 600 mm
	Special rolls only	Max UNP 100 Min To Ø 8000 mm	Special rolls only	Max UNP 140 Min UNP 60 To Ø 9000 mm To Ø 2000 mm	Special rolls only	Max UNP 180 Min UNP 80 To Ø 11000 mm To Ø 2500 mm
	Max INP 100 Min To Ø 2000 To Ø 1000	Max INP 120 Min To Ø 1200 mm To Ø 800 mm	Max INP 120 Min To Ø 2200 To Ø 800	Max INP 140 Min To Ø 1500 mm To Ø 800 mm	Max INP 160 Min To Ø 2600 To Ø 800	Max INP 180 Min To Ø 1800 mm To Ø 800 mm
			Special rolls only	Max HEB 100 Min To Ø 2000 mm	Special rolls only	Max HEB 140 Min To Ø 2500 mm
Max section modulus in material with tensile strength 60–70.000 PSI/42–50 kp/mm ² : Diameter of the rolls: Motor output:		48 cm ³ 385 mm 15 hp	100 cm ³ 460 mm 20 hp		185 cm ³ 550 mm 40 hp	

¹⁾ Indicated diameters are approximative. Smaller diameters can be bent with the standard rolls if the bending is made in more than one operation.

Dimensions



TYPE	A	A*	B	C	D	D*	E	F
R-5-S	1600	2100	1215	940	1930	1430	1030	895
R-6-S	1930	2430	1575	1200	2150	1650	1170	1170
R-7-S	2020	—	1845	1410	2800	—	1500	1345

A* and D* for horizontal or combined machines!

Standard equipment.

Vertical bending shafts.

Hydraulic infinitely variable adjustment of the two main bending rolls as well as the guide rolls.

Hydraulic infinitely variable drive on all three rolls via low speed hydraulic motor.

One set of standard rolls for flat bar, angle and T-sections and square bar.

Hydraulically adjusted guide rolls.

Portable or pendant push button control for all functions.

Compensating and adjustable slip clutch for the central roll.

Dial indicators showing the position of the lower rolls.

Complete set of adjusting tools.

Operators manual and service instructions.

Optional equipment.

Combined horizontal/vertical design.

Bending rolls for pipes.

Bending rolls, combined for I and U beams the easy way.

Bending rolls for I, U and H-beams the hard way.

Bending rolls for round bar.

Spiral bending rolls for production of rings from flat bars or pipes.

Spiralling device for production of coils and spirals from flat bars and pipes.

Bending rolls for other special profiles.

Electronic speed control from the pendant control unit. (Standard equipment on R-7-S, optional equipment on R-5-S and R-6-S).

Digital readouts showing the position of the lower roll.

Micro-hydraulic adjustment of lower rolls.

CNC-controlled machines.

Machine frame.

The main frame (as are all other components) is of all steel welded construction, heavily proportioned, stress relieved and machined.
The machines are completely self contained and no special foundation is required.

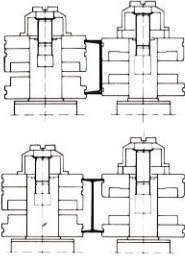
Bearings.

All shafts are journalled in spherical roller bearings, sealed and greased for many years use.
The main shafts and bearing housings are robustly designed to take all bending forces without any need of outboard support.

The drive, roll adjustment, guide roll units, bearing system, frame design and control unit give the users of ROUND O section bending machines a big advantage over other machines. It gives the user the possibility to produce rings of all kind of sections, faster, more accurately and with less losses of material.

Bending rolls.

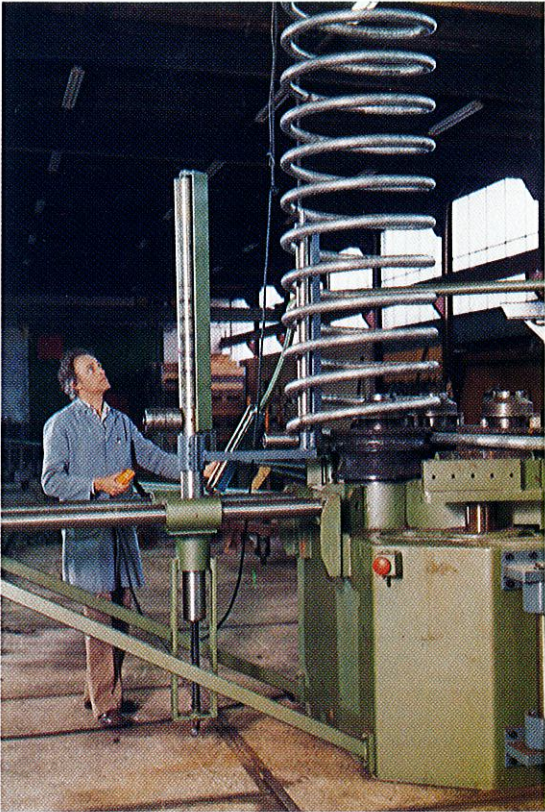
Another type of rolls, the universal rolls, can be delivered instead of the standard rolls at a very low extra price. Those universal rolls cover bending of angle leg in and leg out, T-bars, flat bars on edge and on flat, square bars up to the width of the inner rings without turning or removing the rolls from the shafts. The universal rolls also cover bending of channel, I-beams and wide flange beams the easy way, which means no need for the extra I/U rolls.



Rolling of channel and I-beam the easy way with universal rolls.

Example of special equipment.

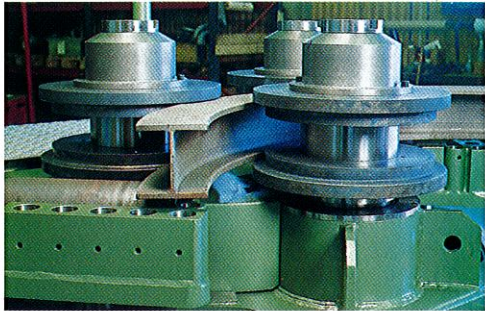
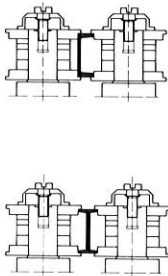
All ROUND O section bending machines can be equipped with a great variety of special and customer designed equipment.



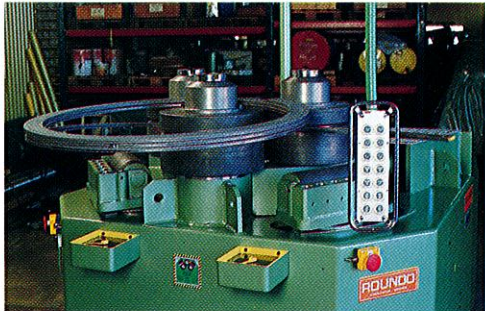
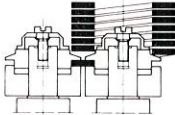
Bending of a coil from pipe with outer diameter 70 mm on ROUND O R-6-S Coiling Device. Diameter of the coil 600 mm, and pitch 150 mm.

Special Rolls

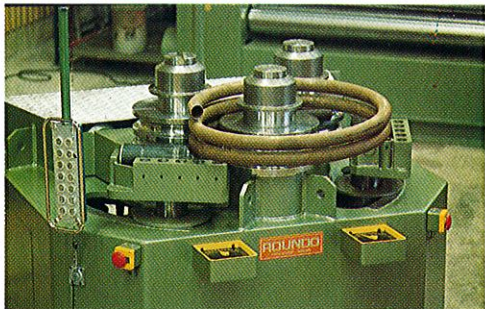
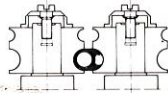
Rolls for I and U beams, leg out and leg in.
Rolls for pipes with max. two pipe dimensions per set are available.
Rolls for high production of rings by spiral bending of flat bar or pipe are commonly used.
Other special rolls for all types of sections can be delivered at your request. In some cases where soft material is being used, the rolls are made of special material such as nylon to avoid scuffing and marking of easily damaged sections.



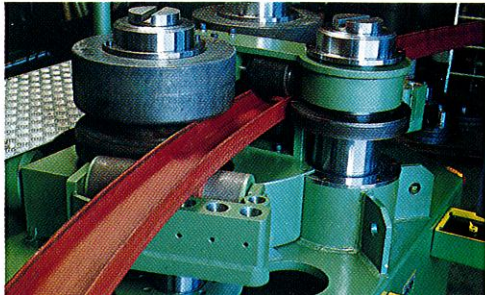
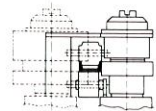
Bending of INP 300 the easy way.



Spiral bending of flat bar 100 x 20 mm for production of rings.



Spiral bending of pipe for production of rings. Pipe diameter 60 mm.



Bending of INP 140 with "on edge device" for bending of I, U and H beams the hard way. Effective guide rolls prevent deformation.

ROUND O Hydraulic Section Bending Machines

Built to Perform High Precision Operations.

The rolling speed is infinitely variable from 0–7 m/min by adjustment of a variable delivery piston pump.

Hydraulic bending roll adjustment.

Both main lower bending rolls are individually and steplessly adjustable.

Prebending and bending is done in one operation without turning the section.

The bending force of the two lower rolls is provided by the variable delivery piston pump.

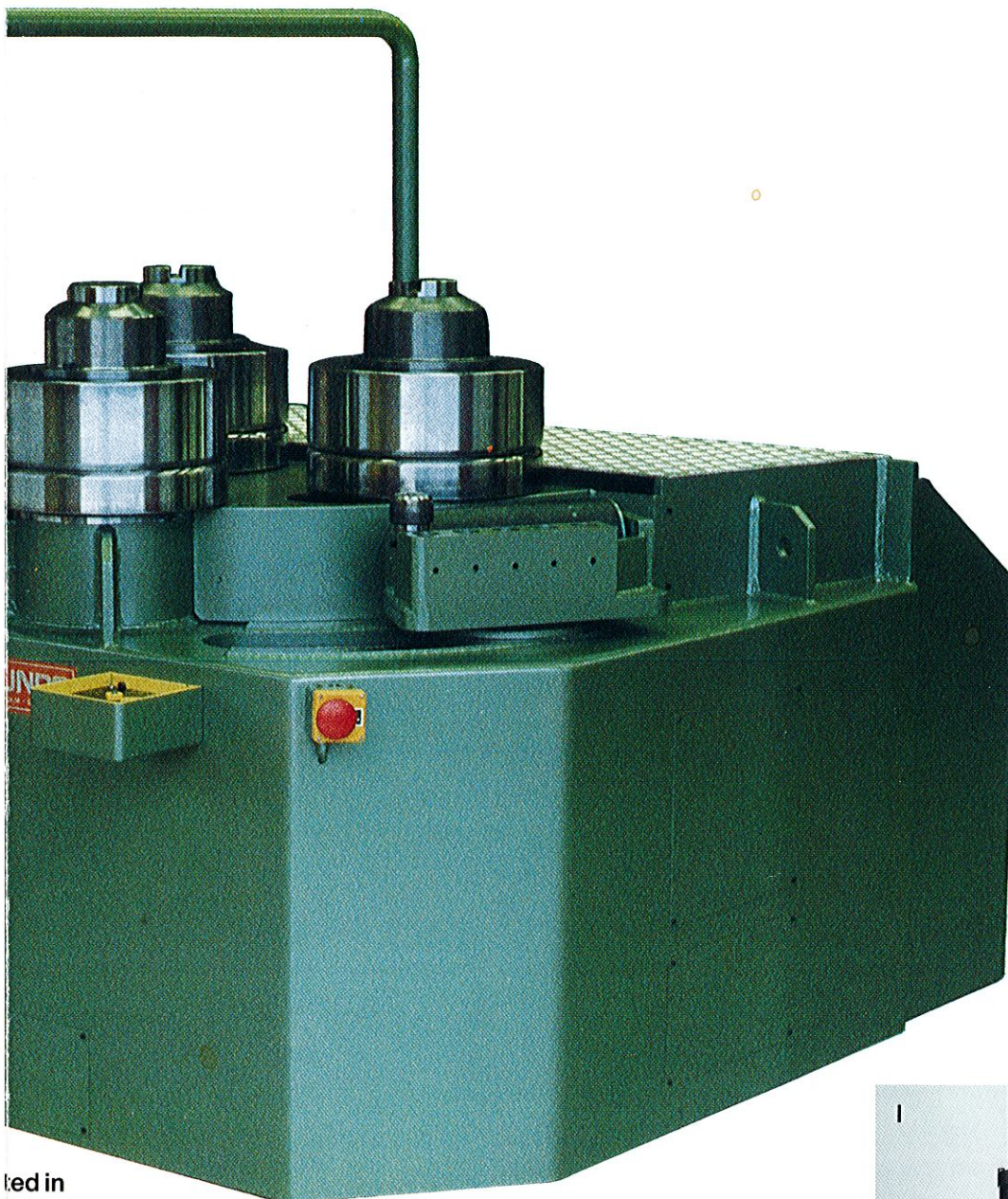
The selected method of roll-adjustment of ROUND O section

bending machines allows the user to utilize the bending distance best suited for each type of section and bending radius with a minimum of losses in material.

Fully hydraulic guide rolls.

Left and right guide rolls are fully hydraulic and each adjustable in three directions. Both guide rolls are equipped for both leg out and leg in rolling of angles.

The guide rolls, as well as the hydraulic rams, are designed to take any load, bending diameter and section height within the capacity of the machine.



The machines are as standard equipped with easily read dial indicators for each bending roll, enabling the operator to control the adjustment.

For a more accurate control of the positions of the bending rolls the machines can be equipped with electronic measuring device with the displays on the pendant push button control.

This device enables the operator to make accurate repeat settings.

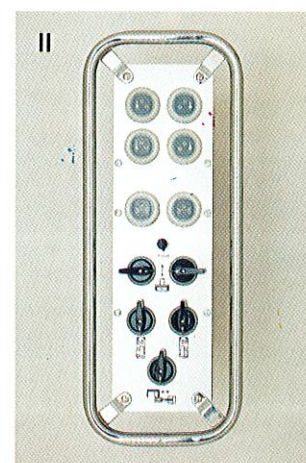
ted in
cal and angu-
e push button control.
ollow automatically the movement
and as they are integral with the
the bending rolls the unit provides
and reliability.

ent enables every operator to avoid
twisting tendencies that exist in all

od with hydraulic-six-way-adjust-
is always gives the most accurate
um of production time.

I Pendant control box with joy sticks for the rotation and the adjustment of the rolls. The speed is fully controlled by the joy sticks.

II Pendant push button control with potentiometer controlled speed adjustment. Standard on R-7-S. Optional equipment on R-5-S and R-6-S.

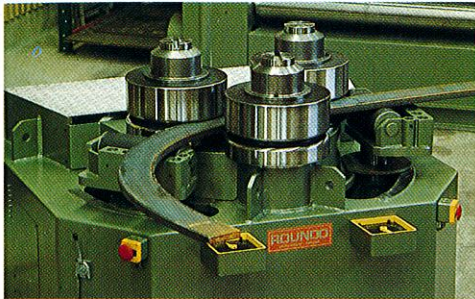


Standard Rolls

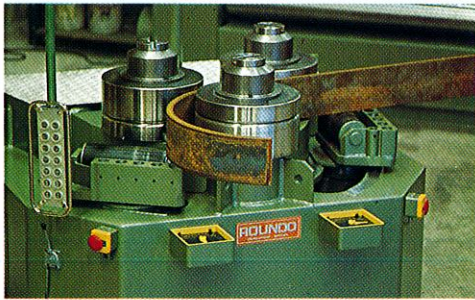
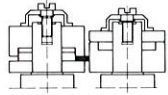
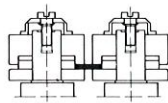
Standard bending rolls, for the bending of flat bar on the flat and on edge, square bar, angle leg in and leg out and T-bar leg in and leg out, are supplied as standard equipment.

The rolls are through – hardened and located on the shafts by means of a single key, thus making it easy to adjust and change over to the various special rolls that can be supplied as optional equipment.

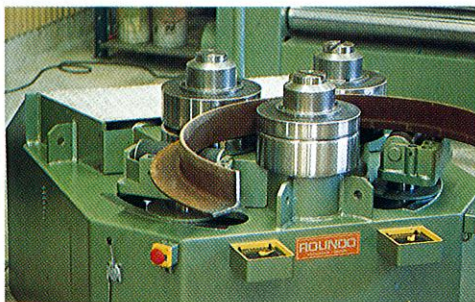
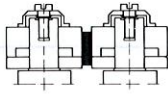
The fully hydraulic six-way-controlled guide rolls, which facilitate bending of asymmetrical sections, are standard equipment.



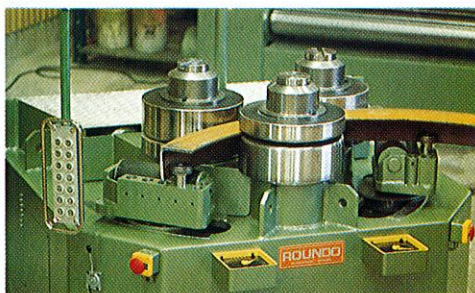
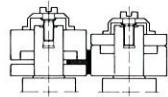
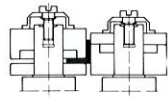
Bending of flat bar 120 x 25 mm on edge.



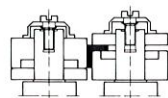
Bending of flat bar 200 x 25 mm on the flat.



Bending of an angle section 120 x 120 x 12 mm leg out. The guide rolls support the section and twisting is avoided.



Bending of an angle section 100 x 100 x 10 mm leg in. The guide roll unit is used to avoid twisting and deformation.

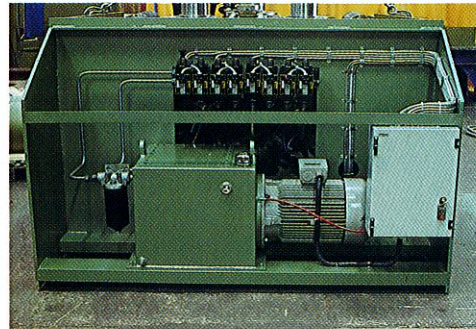


ROUND-O section bending machines R-5-S, R-6-S and R-7-S are built to perform demanding and difficult high precision bending operations. The machines are fully hydraulic with hydraulically operated guide rolls for easy and accurate bending of unsymmetrical sections like angles leg in or leg out with a minimum of deformation.

All functions of the machine are controlled from a pendant push button control box.

Fully hydraulic drive.

All three rolls are driven, irrespective of the position of the lower rolls. To protect and increase the efficiency of the machine and to avoid damage to the workpiece the top (central) roll is driven via a very effective and reliable slip clutch compensating for the difference between the inside and outside diameter of the section being bent. With this positive driving system the roll or rolls feeding the section through the machine will always have the available torque.



First rate service and "easy to maintain" machines are of the highest importance in worldwide deliveries.

It has always been a goal of ROUND-O to design their products for quick and easy maintenance.

As a result we can offer a machine with all the important components logically arranged. Oil filter, oil tank, hydraulic motor, hydraulic valves and electric accessories – all are conveniently situated and easily accessible.

This is, together with ROUND-O's well-known quality, the best guarantee against down time in the event of a breakdown.



The fully hydraulic guide rolls are adjustable in the horizontal, vertical direction from the top. The guide roll units feed the workpiece into the bending rolls. The guide roll units are of the maximum strength. This unique equipment saves time consuming section bending. The ROUND-O-Methode of the guide roll adjustment results in a minimum of deformation.