



HSR-3 Hydraulic Ring Rolling Machine 415v

The Morgan Rushworth HSR-3 range of hydraulic section bending machines are designed to roll various material sections and are available with shaft diameters from 40mm up to 120mm. All models are equipped with twin hydraulic rams to position the lower rolls, providing pre-bending capability and the convenience of performing the bending operation with the material in the horizontal position. All of the HSR-3 machines can be operated in either the vertical or horizontal plane. The standard rolls supplied with the machine are hardened and have been designed to bend most sections, with the exception of round tube for which tools are available as an option. Lateral guide rolls ensure straight and true bending, or if required can be adjusted in order to spiral the material.



**HSR-3 120/390
with NC Controller**

Machine Features

- Double pinch hydraulic lower rolls adjustment
- Two digital read outs to indicate lower roll positions
- All three rolls driven
- Hydraulically powered rotation - HSR-3 100/315 & 120/390
- Hardened rolls
- Standard modular rolls able to bend a wide range of profiles
- Smooth rolls ensure minimal material marking
- Manually adjusted lateral guide rolls (not HSR-3 120/390)
- Hydraulically adjusted lateral guide rolls - HSR-3 120/390
- Horizontal or vertical working position
- Mobile control panel

Optional Equipment

- Tube rolls and other specialist tooling
- NC control system
- Hydraulically adjusted lateral guide rolls
- Infinitely variable rolling speed - HSR-3 100/315 & 120/390
- Spiral bending device



The optional Morgan Rushworth NC controller provides automation, greater control and increased production to section bending. The controller can be used in manual, semi-automatic and automatic modes. Roll positions are indicated on the control panel and in manual mode can be used similar to a conventional digital read out system.

The controller can also be used in teach mode where the bending is carried out manually with all rolling and pre-bending functions recorded and then locked in the memory. If necessary the program can then be edited to fine tune as required. Alternatively a program can be entered line by line into the controller, carry out a test bend and again be edited if required.

STANDARD CONTROL PANEL WITH THE OPTIONAL HYDRAULICALLY ADJUSTED LATERAL GUIDE ROLLS

The NC unit has 500 programs storage each with up to 200 lines per program. Program storage may be further increased with the use of USB flash memory.



NC CONTROL PANEL SCREEN



NC CONTROLLER

TECHNICAL SPECIFICATIONS

MODEL		PSR 35/140	PSR 50/155	HSR 50/160	HSR 60/215	HSR-3 80/245	HSR-3 100/315	HSR-3 120/390
Shaft Diameter	mm	35	50	50	60	80	100	120
Roll Diameter	mm	137	155	162	215	245	315	390
Rolling Speed	m/min	2.1	4.3	4.5	4	6	7	7.5
Power	kW	0.75	1.5	1.1	1.5	4	7.5	15
Length	mm	670	730	810	1,000	1,450	2,000	2,000
Width	mm	530	830	950	1,400	1,000	1,450	1,650
Height	mm	1,350	1,350	1,500	1,650	1,400	1,700	1,900
Weight	kg	195	400	500	950	1,700	3,650	4,450

MODEL		HSR-3 160/480	HSR-3 180/580	HSR-3 200/580	HSR-3 240/620	HSR-3 300/760	HSR-3 360/800
Shaft Diameter	mm	160	180	200	240	300	360
Roll Diameter	mm	480	580	580	620	760	800
Rolling Speed	m/min	3-6	3-6	2-5	2-4	2-4	2-4
Power	kW	22	30	30	47	73	77
Length	mm	2,500	2,760	3,000	3,100	5,000	5,000
Width	mm	2,200	2,310	2,310	2,400	4,250	4,250
Height	mm	2,300	2,680	3,100	3,200	3,750	3,750
Weight	kg	9,300	14,400	16,500	19,800	38,500	55,000

See overleaf for full capacity chart



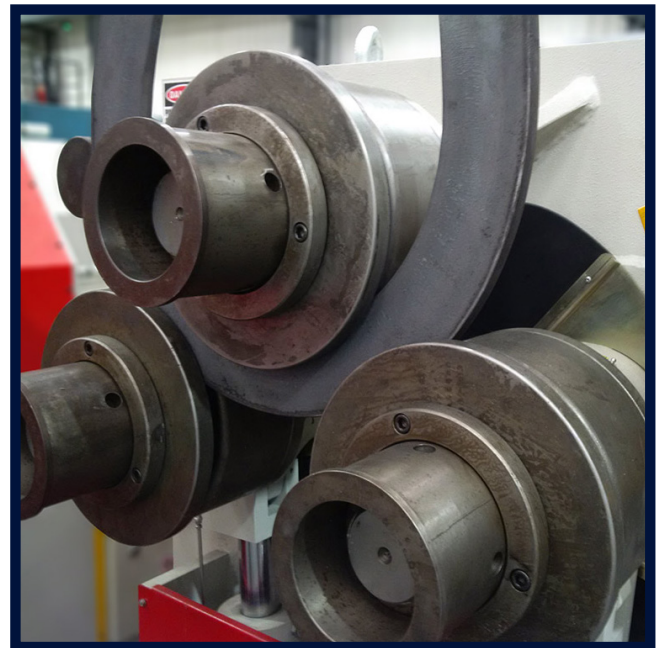
HEAVY-DUTY HYDRAULICS



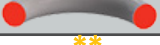
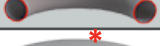
LATERAL GUIDE ROLL



TOOLING



CAPACITIES

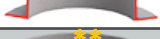
MODEL	PSR 35/140			PSR 50/155			HSR 50/160			HSR 60/215			HSR-3 80/245			HSR-3 100/315			HSR-3 120/390		
PROFILE	Size	Min. Dia.		Size	Min. Dia.		Size	Min. Dia.		Size	Min. Dia.		Size	Min. Dia.		Size	Min. Dia.		Size	Min. Dia.	
1. 	50 x 10 20 x 6	800 300		60 x 10 40 x 10	500 400		60 x 10 20 x 10	600 300		80 x 20 40 x 10	1200 400		100 x 20* 80 x 20 30 x 10	2000 800 300		100 x 20 30 x 10	800 400		125 x 25 30 x 10	1200 500	
2. 	80 x 15 30 x 6	700 400		100 x 15 60 x 10	450 350		100 x 15 50 x 10	600 300		120 x 25 50 x 10	600 400		125 x 25 60 x 5	600 300		200 x 30 160 x 35 80 x 5	1200 800 400		200 x 50 100 x 10	1000 500	
3. 	30 x 30 10 x 10	900 200		35 x 35 20 x 20	900 300		35 x 35 15 x 15	600 300		50 x 50 20 x 20	800 400		45 x 45 15 x 15	500 380		60 x 60 15 x 15	750 400		65 x 65 20 x 20	750 500	
4. 	Ø 30 Ø 10	900 200		Ø 35 Ø 30	600 400		Ø 35 Ø 20	600 300		Ø 50 Ø 20	800 400		Ø 50 Ø 15	500 380		Ø 75 Ø 15	800 450		Ø 80 Ø 20	850 500	
5. 	Ø 60 x 1.5 Ø 25 x 1.5	1000 600		Ø 70 x 2 Ø 30 x 2	1000 500		Ø 70 x 2 Ø 25 x 1.5	1200 400		Ø 100 x 2 Ø 60 x 2	1600 500		Ø 100 x 2.5 Ø 15 x 1	1200 380		Ø 125 x 2.5 Ø 15 x 1	1400 450		Ø 160 x 4 Ø 140 x 3 Ø 50 x 2	2800 1500 500	
6. 	48.3 x 2.9	600		60.3 x 2.9 33.7 x 2.3	1000 350		60.3 x 2.9 21.3 x 2.3	1000 300		88.9 x 3.2 33.7 x 2.6	1600 500		88.9 x 5.48 21.3 x 2.77	800 380		114.3 x 4.5 21.3 x 2.77	1000 500		139.7 x 6.35 26.9 x 2.87	1500 500	
7. 	50 x 30 x 3 40 x 20 x 3	1200 800		70 x 30 x 2 50 x 40 x 3	1200 1200		70 x 30 x 3 30 x 15 x 2	1500 400		80 x 40 x 3 40 x 20 x 2	1400 500		80 x 25 x 3 25 x 15 x 2	800 350		100 x 40 x 4 25 x 15 x 2	1300 450		120 x 40 x 4 30 x 20 x 3	1800 500	
8. 	40 x 3 30 x 2	1200 800		50 x 3 40 x 3	1700 600		50 x 3 20 x 2	1600 400		70 x 3 40 x 2	1600 500		70 x 3 25 x 2	1300 350		80 x 5 25 x 2	1500 450		90 x 5 30 x 3	1800 500	
9. 	40 x 40 x 5 30 x 30 x 4	600 300		50 x 50 x 5 40 x 40 x 5	800 600		50 x 50 x 6 30 x 30 x 3	600 400		70 x 70 x 7 40 x 40 x 5	1000 500		80 x 80 x 8 30 x 30 x 3	800 400		100 x 100 x 12 40 x 40 x 4	1000 700		120 x 120 x 12 40 x 40 x 4	1200 600	
10. 	35 x 35 x 5 30 x 30 x 4	600 400		50 x 50 x 6 30 x 30 x 3	1000 500		50 x 50 x 6 30 x 30 x 3	600 400		70 x 70 x 7 40 x 40 x 5	1200 600		70 x 70 x 7 30 x 30 x 3	700 450		100 x 100 x 10 40 x 40 x 4	1500 550		100 x 100 x 10 40 x 40 x 4	1200 600	
11. 	50 x 6 20 x 3	600 400		60 x 7 30 x 4	700 400		60 x 7 30 x 4	600 400		80 x 9 40 x 5	1000 400		80 x 9 30 x 4	800 450		100 x 11 30 x 4	1000 400		100 x 11 30 x 4	800 500	
12. 	50 x 6 20 x 3	600 400		60 x 7 30 x 4	800 500		60 x 7 30 x 4	700 400		80 x 9 40 x 5	1200 400		70 x 8 25 x 3.5	800 280		90 x 10 30 x 4	1000 400		100 x 11 30 x 4	1000 500	
13. 	50 x 6 20 x 3	600 400		60 x 7 30 x 4	700 500		60 x 7 30 x 4	700 400		80 x 9 40 x 5	1000 400		80 x 9 30 x 4	800 280		100 x 11 30 x 4	1000 400		100 x 11 30 x 4	800 500	
14. 	N/A			UPN 80 UPN 30	1000 500		UPN 80 UPN 30	800 400		UPN 100 UPN 60	800 500		UPN 140 UPN 120 UPN 100	1600 900 800		UPN 180 UPN 30	1000 400		UPN 220 UPN 180 UPN 40	1000 800 500	
15. 	N/A			UPN 80 UPN 30	1200 800		UPN 80 UPN 30	1200 600		UPN 100 UPN 60	1200 600		UPN 140 UPN 120 UPN 100	1600 1000 800		UPN 180 UPN 30	1000 400		UPN 220 UPN 180 UPN 40	1200 900 600	
16. 	N/A			N/A			N/A			N/A			IPN 120 IPN 80	600 400		IPN 180 IPN 80	1000 400		IPN 220 IPN 80	1000 500	
17. 	N/A			N/A			N/A			N/A			N/A			HEA 120 HEB 100	1000 1200		HEB 120 HEA 140	1200 1200	
18. 	N/A			N/A			N/A			N/A			N/A			N/A			UPN 120 UPN 50	10000 1000	
19. 	N/A			N/A			N/A			N/A			N/A			N/A			IPN 160 IPN 140 IPN 80	5000 4000 1200	
20. 	N/A			N/A			N/A			N/A			N/A			N/A			HEA 120 HEB 100	4500 1600	

Capacities are given for 260 N/mm² plate yielding strength | * Specialist tooling recommended | ** Specialist tooling required | *** Only with special Beam Bending Attachment



OPTIONAL NYLON ROLLS FOR STAINLESS STEEL ETC

CAPACITIES

MODEL	HSR-3 160/480		HSR-3 180/580		HSR-3 200/580		HSR-3 240/620		HSR-3 300/760		HSR-3 360/800	
PROFILE	Size	Min. Dia.	Size	Min. Dia.	Size	Min. Dia.	Size	Min. Dia.	Size	Min. Dia.	Size	Min. Dia.
1. 	150x35	2500	180x30	2500	200x50	3500	200x70	3800	250x100	3000	300x100	3000
2. 	270x50	1500	280x60	2000	350x80	2500	380x80	2500	500x100	2500	550x120	3000
3. 	90x90	1500	110x110	2000	120x120	3000	130x130	2500	180x180	2500	200x200	3000
4. 	Ø90	1800	Ø110	2000	Ø120	3000	Ø150	3000	Ø200	5000	Ø225	6000
5. 	Ø 150x4	6000	Ø 220x4	8000	Ø 273x5,6	10000	Ø 300x5,9	9000	Ø350x6	10000	Ø475x8,5	15000
6. 	Ø6"x7,11	3500	Ø 8"x8, 18	4000	Ø 9"x6,3	4000	Ø 10"x9,27	5000	Ø12"x14,27	8000	Ø16"x12,7	12000
7. 	150x50x5	4500	200x100x8	5000	220x80x7	7000	300x100x10	8000	400x200x10	10000	500x250x15	-
8. 	120x6	4000	150x8	4500	180x10	5500	200x10	6000	260x14	8000	300x15	10000
9. 	J 150x150x18	4000	160x160x15	2500	180x180x16	3000	200x200x20	3000	200x200x28	4000	200x200x28	4000
10. 	140x140x14	5000	150x150x18	4000	160x160x15	6000	180x180x18	6000	200x200x20	6000	200x200x28	7000
11. 	150x15	2000	160x20	2500	200x20	3500	200x28	3000	240x28	3000	250x25	4000
12. 	130x15	2500	150x20	3000	200x20	3500	200x20	3500	220x22	4000	250x25	5000
13. 	150x15	2000	160x20	2500	180x10	6000	180x18	6000	200x20	6000	200x28	6000
14. 	UPN 280	2000	UPN 350	2500	UPN 380	3000	UPN 450	3000	UPN 550	3500	UPN 600	4000
15. 	UPN 280	3000	UPN 350	3000	UPN 380	3500	UPN 450	3500	UPN 550	4000	UPN 600	4500
16. 	IPN 300	3000	IPN 360	3000	IPN 360	3500	IPN 450	3500	IPN 550	4000	IPN 600	5000
17. 	HEB 180	3000	HEB 200	2500	HEB 240	3000	HEB 300	4000	HEB 500	5000	HEB 600	6000
18. 	UPN 180	10,000	UPN 220	10.000	UPN 260	12000	UPN 300	12000	UPN 340	15000	UPN 400	20000
19. 	IPN 180	4500	IPN 220	5000	IPN 260	10000	IPN 300	12000	IPN 360	10000	IPN 400	20000
20. 	HEA 160 HEB 120	6,000 4000	HEB 160	5000	HEB 180	6000	HEB 200	7000	HEB 280	10000	HEB 340	12000

Capacities are given for 260 N/mm² plate yielding strength | * Specialist tooling recommended | ** Specialist tooling required | *** Only with special Beam Bending Attachment