SERIES 3000 Double Pinch Angle Rolls

The Industry Standard for a...

New Generation of Highly Efficent and Versatile Machines with Unparalelled Standard Features

CARELL® CORPORATION
FABRICATING MACHINERY

Real Quality is Always Found in the Details. Compare for Yourself, Then Choose.

FIFTEEN MODELS
Capacities
from 1" to 10"ANGLE

The Ideal Choice for All Applications!

15 MODELS
1" TO 10" ANGLE

SERIES 3000
308HV - 309HV - 310HV

STANDARD EQUIPMENT

- LED Digital Displays on all 3000 Versions
- Telescoping Modular Multi-Component roll set specifically designed to bend standard profiles including Angle-Channel-Tees Leg-In/Out, Square/Rectangular Tube as well as other shapes in a variety of material types
- Tri-Directional Lateral Guides with cam rollers for improved Angle Rolling Performance

307HV

305HV

304HV

303HV

302HV

OPTIONS

- Rolls for tubes, pipes and special profiles
- Tooling for production of half tubes
- Overhead supports for coil production
- Compression and Tension tooling for C channel, & I beam hard way bending
- NC & CNC Controls with various automation levels for repetitive jobs and production of variable radius bends
- Powered lateral material guides 302 - 308
- LED digital displays for lateral guide movements

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FABRICATING MACHINERY

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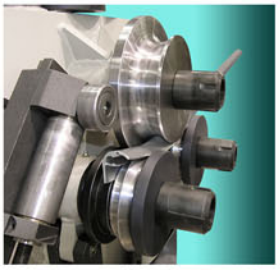
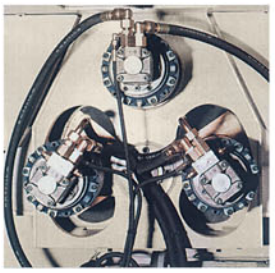
FAX (251) 937-0957 www.carellcorp.com

The Proven Standard for Dependable, Reliable, Precision Rolling & Bending Machines

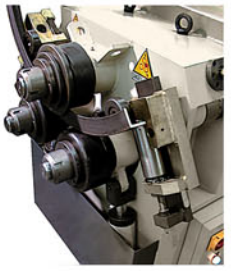


Custom tooling for special sections made in-house for Rapid Turnaround

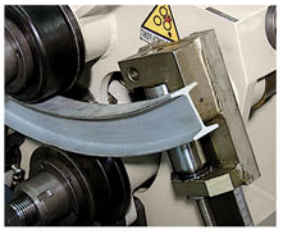


Direct coupled hydraulic motors and planetary speed reducers

Tension tooling for hard way bending of beams



Lateral guides used for angle leg-in

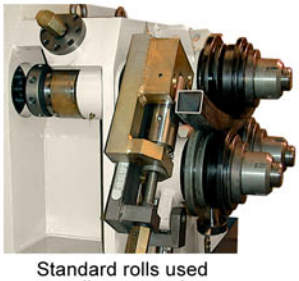


Standard rolls used on junior beams EZ & HW

TECHNICAL FEATURES

- Three driven rolls, smooth surfaced for optimal profile traction and surface finish
- Double Pinch Geometry permits pre-bending of leading and trailing ends of the profile without removal from the machine
- Material guides tri-directionally adjustable
  in/out up/down cw/ccw
- Dual LED Digital Displays monitor bending roll positions (All Versions)
- Monolithic single weldment frames heavily reiforced at load points, stress relieved and CNC machined
- Detached mobile control stand with trailing lead, low voltage controls, Emergency stop
- With both Horizontal & Vertical operation on models 301 - 309
- Bending rolls in Nickel Chrome Molybdenum tool steel, hardened for optimal performance
- Top roll drive incorporates a torque limiting device for overload protection which allows differing roll speeds when bending tall sections
  Models 301 - 305 mechanical clutch
  Models 306 - 315 hydraulic compensator
- Variable speed hydraulic drive train 306 - 315 with direct coupled hydraulic motors and planetary speed reducers. Electro-mechanical drive on 301 - 305
- Shafts journaled in dual self-aligning high dynamic load roller bearings

Special tooling for half tubes and powered overhead support for coils and spirals



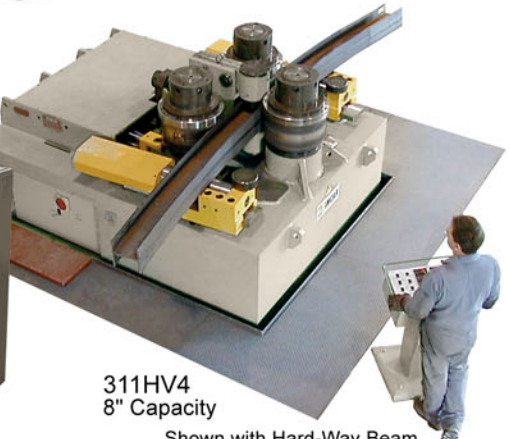
Standard rolls used to roll square tube

Tri-directional lateral material guides standard
Tri-directional hydraulic powered: 308 - 315

Special rolls for tube and pipe

301HV
1" Capacity
Horizontal &
vertical operation

OPTIONAL NC/CNC CONTROLS
allow complete flexibility & automation of the work cycle



311HV4
8" Capacity
Shown with Hard-Way Beam Bending Traction Tooling

NOTES: Chart indicates minimum suggested inside diameter with maximum profile size, using mild steels rolling generally in multiple passes. • Data are approximate and specified inches u.n.o. • Custom tooling for some profiles may be required for volume production and minimum rolling diameters are limited to level of acceptable deformation. • Series 3000 models numbers replace CPHV nomenclature, machines have not changed, only the model number. • The manufacturer and Carell Corp. reserve the right to revise design, construction and specifications without prior notice. • Ratings based on material yield of 36KSI. • Machines with extended shafts or shortened shafts are available. • Call us should you have questions on applications or capacities.

Series 3000/CPHV machines are designed compliant with EEC norms and bear CE plates. Units are designed to comply with ANSI B11.12.1996 standards. The employer of the operator is responsible for providing and insuring the usage of point of operation guards and/or properly applied and adjusted point of operation safety devices are required to meet OSHA, state and local safety requirements.

SERIES 3000/CPHV DOUBLE PINCH HYDRAULIC ANGLE ROLLS CAPACITIES & SPECIFICATIONS

Series 3000 Model / CPHV Model	301HV CPHV40	302HV CPHV50	303HV CPHV60	304HV CPHV70	305HV CPHV80	306HV CPHV90	307HV CPHV100	308HV CPHV120	309HV CPHV130	310HV4 CPHV140	311HV4 CPHV180	312HV4 CPHV190	313HV4 CPHV200	314HV4 CPHV250
Flats, Hard	1-½ x ¼ Ø12	2 x 5/16 Ø16	2-⅜ x ⅜ Ø20	2-¾ x ½ Ø28	3 x ⅝ Ø30	4 x ⅝ Ø42	4 x 1 Ø44	5-½ x ¾ Ø60	6 x 1 Ø60	6 x 1-½ Ø60	8 x 1-¼ Ø100	8 x 2 Ø100	10 x 2 Ø120	10 x 2-½ Ø120
Flats, Easy	2 x ½ Ø12	2-⅜ x ⅝ Ø18	3 x ¾ Ø18	4 x 1 Ø26	5 x 1 Ø26	6 x 1 Ø30	7 x 1-⅜ Ø32	8 x 2 Ø42	9 x 2 Ø48	10 x 2-½ Ø60	12 x 2-½ Ø60	16 x 2-½ Ø76	18 x 2-½ Ø80	20 x 3 Ø90
Square Bar	¾ Ø12	1 Ø12	1-¼ Ø18	1-½ Ø20	1-¾ Ø22	2 Ø26	2-½ Ø32	3 Ø36	3-⅜ Ø48	3-¾ Ø60	4 Ø54	4-½ Ø66	5 Ø78	6 Ø90
Angle, L-Out	1-¼ x 3/16 Ø16	2 x 3/16 Ø24	2 x ¼ Ø28	2-½ x 5/16 Ø30	3 x ⅜ Ø42	3-½ x ⅜ Ø48	4 x ½ Ø48	5 x ½ Ø60	5 x ⅝ Ø54	6 x ¾ Ø72	6 x 1 Ø96	8 x 1 Ø120	8 x 1 Ø80	8 x 1-¼ Ø80
Angle, L-In	1 x 3/16 Ø16	1-½ x 3/16 Ø18	2 x 3/16 Ø28	2 x 5/16 Ø30	2-½ x 5/16 Ø42	3 x ⅜ Ø40	4 x ⅜ Ø50	4 x ½ Ø48	5 x ½ Ø60	5 x ⅝ Ø60	6 x 1 Ø120	8 x ¾ Ø140	8 x 1 Ø100	8 x 1-⅛ Ø80
Tee, L-Out	1-¼ x 3/16 Ø14	2 x ¼ Ø20	2-¾ x¼ Ø24	2-½ x 5/16 Ø26	3 x ⅜ Ø34	3-½ x ⅜ Ø38	4 x ½ Ø54	4-½ x ½ Ø48	5 x ½ Ø60	6 x ½ Ø75	6 x ⅝ Ø96	7-½ x ⅝ Ø96	8 x ⅝ Ø96	10 x ¾ Ø144
Tee, L-In	1 x 3/16 Ø14	1-½ x 3/16 Ø20	2 x 3/16 Ø22	2 x 5/16 Ø26	3 x 5/16 Ø36	3-½ x 5/16 Ø38	4 x ⅜ Ø60	4 x ½ Ø50	4-½ x ½ Ø60	5 x ½ Ø75	6 x ½ Ø96	7-½ x ⅝ Ø96	8 x ⅝ Ø96	10 x ⅝ Ø144
C, Legs-out	1-½ x ¾ Ø14	2 x 1-½ Ø16	3 x 1-¾ Ø24	4 x 1-¾ Ø28	5 x 2 Ø28	6 x 2-½ Ø30	7 x 2-½ Ø36	8 x 3 Ø36	10 x 3 Ø48	12 x 3 Ø48	15 x 3-½ Ø48	16 x 4 Ø60	18 x 4 Ø60	20 x 4 Ø72
C, Legs-in	1-½ x ½ Ø14	2 x 1 Ø20	2-½ x 1-⅝ Ø30	3 x 1-¾ Ø28	4 x 2 Ø36	5 x 2-½ Ø40	7 x 2-½ Ø48	8 x 3 Ø48	10 x 3 Ø60	12 x 3 Ø60	15 x 3-½ Ø60	16 x 4 Ø60	18 x 4 Ø60	20 x 4 Ø72
Round Bar	1 Ø12	1-3/16 Ø14	1-⅜ Ø16	1-¾ Ø20	2 Ø22	2-½ Ø30	3 Ø30	3-⅜ Ø40	3-½ Ø40	4-½ Ø60	5 Ø60	5-½ Ø60	6 Ø72	7 Ø90
1 Pipe, Sch. 40	¾ Ø16	1-¼ Ø20	1-½ Ø20	2 Ø24	2-½ Ø32	3 Ø42	4 Ø45	5 Ø70	6 Ø120	6 Sch80 Ø100	8 Ø100	10 Ø160	12 Ø160	12 Scd80 Ø200
1 Round Tube	1-½ x 16Ga	2 x 16Ga	2-⅜ x 14Ga	3 x 14Ga	3-½ x 14Ga	4-½ x 12Ga	5-½ x 10Ga	6-½ x 9Ga	7 x 3/16	8 x 3/16	10 x 3/16	12 x 3/16	14 x 3/16	14 x 5/16
2 Square Tube	1 x 14Ga	1-½ x 14Ga	2 x 14Ga	2-¼ x 11Ga	2-½ x 10Ga	3 x 3/16	3-½ x ¼	4 x 5/16	5 x 5/16	5-½ x 5/16	6 x ¾	7 x ⅜	8 x ½	10 x 7/16
2 Rect. Tube	1-¼ x ¾ x 14Ga	1-½ x ¾ x 13Ga	2 x 1-¼ x 12Ga	2-½ x1-¼ x11Ga	3 x 1-½ x 10Ga	4 x 1-½ x 3/16	5 x 2 x 3/16	5-½ x 2 x 5/16	6 x 3 x ¼	7 x 3 x 5/16	8 x 3-½ x ⅜	8 x 4 x ⅜	10 x 4 x ½	10 x 6 x ½
I Beam EZ			S3 x 5.7 Ø24	S4 x 7.7 Ø30	S5 x 10 Ø32	S6 x 17 Ø36	S7 x 20 Ø48	S8 x 23 Ø48	S10 x 35 Ø48	S12 x 40 Ø48	S15 x 50 Ø48	S18 x 54 Ø72	S18 x 70 Ø80	S20 x 96 Ø86
H Beam EZ						M4 x 13 Ø72	W5 x 16 Ø60	W6 x 20 Ø60	W8 x 24 Ø72	W8 x 31 Ø72	W10 x 45 Ø108	W10 x 54 Ø120	W12 x 72 Ø96	W18 x 106 Ø120
3 C, On Edge							C3 x 6 Ø96	C5 x 9 Ø140	C6 x 13 Ø200	MC7 x 17 Ø250	C8 x 18.75 Ø300	C10 x 25 Ø400	MC12 x 50 Ø450	C15 x 34 Ø600
3 I Beam HW							S5 x 15 Ø100	S6 x 17 Ø120	S7 x 20 Ø150	S8 x 23 Ø200	S8 x 23 Ø140	S10 x 35 Ø300	S12 x 50 Ø300	S15 x 50 Ø550
3 H Beam HW								W4 x 13 Ø100	W5 x 19 Ø100	W6 x 20 Ø180	W6 x 25 Ø120	W8 x 28 Ø300	W10 x 33 Ø400	W12 x 35 Ø500

Section Modulus	in^3	0.10	0.20	0.40	0.61	1.10	1.5 - 2.26	2.8 - 4.9	4.3 - 7.4	6.2 - 10	9 - 15	14 - 21	20 - 36	28 - 44	40 - 62
Rolling Speed	fpm	20	20	20	20	20	0 - 23	0 - 23	0 - 23	0 - 23	0 - 23	0 - 23	0 - 23	0 - 23	0 - 23
Power Output	HP	2	3.8	4	4.7	6.5	10	15	20	24	30	40	55	90	120
Roll Diameters	in	5.31	5.70	7.0	8.07	9.65	10.83	12.40	15.375	17	18.75	22	25.25	28.375	33
Shaft Diameters	in	1.38	1.57	1.97	2.36	2.76	3.54	3.94	5.3 / 4.7	6.3 / 5.3	7.3 / 6.7	8.5 / 7.9	9.8 / 9.1	11.6 / 10.7	12.6 / 11.8
Approx. Weight	lbs.	780	1,200	1,720	2,420	3,450	5,725	8,210	10,000	15,180	20,500	28,800	41,000	54,500	99,000

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LEGEND: (1) Set of 3 rolls required for each tube or pipe size, (2) Special rolls may improve results on these profiles, (3) Special Beam On-Edge Traction Device required

Same Great Machine and Features with New Color Scheme!

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