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S E T T I N

> T H E

C U R V



Manufacturer of

Tube, Pipe and Profile

Bending and Metalworking Machinery



elcome to CML USA, Inc., North American supplier of Ercolina® tube, pipe and profile bending machinery. We are pleased to offer our customers the highest quality tube and pipe benders and related metal fabrication equipment available today. Ercolina's affordable tubing benders and fabricating machinery are designed to reliably and accurately produce your applications – increasing profit, improving product quality and finish.

Our product line is always expanding to include more manual, automatic and CNC pipe and tube bending machines,

mandrel benders, NC swaging equipment and metal forming machinery. Ercolina's experienced sales, service and support staff is always ready to offer positive application solutions for today's fabricator.

Company Profile:

CML USA, Inc. consistently leads the industry providing quality metal fabricating equipment to commercial and professional metal fabricators in the United States, Canada, Mexico and South America. Our product line includes rotary draw tube & pipe bending machine equipment, NC and CNC mandrel benders, angle rolls, section benders and tube & pipe notch-

ers, ornamental metal working machinery and much more. Ercolina® is recognized worldwide as one of the largest and most respected manufacturers of tube and pipe benders and metal fabricating machines.

We invite you to tour our websites and see for yourself why Ercolina® continues to lead the industry in high quality bending equipment. Call our trained and knowledgeable product support representatives today at (563) 391-7700 to discuss your next bending application, speak with your regional Ercolina® representative or arrange a demonstration of Ercolina® products.

Mission Statement

To develop successful long-term relationships with our customers and dealers.

Constantly seeking to innovate and improve our product lines, customer service and business methods.

Continue to lead the market with product innovation, and sales of tube and pipe bending machinery.

Develop beneficial Ercolina product information and support worldwide.

Develop and lead new markets for our corporate growth.





Scott Tunis
President
CML USA, Inc.

Alessandro Caporusso Founder & President CML International S.p.A.

About This Catalog:

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ANGLE ROLL - SECTION BENDERS

We have tried to make this catalog comprehensive and factual. CML USA, Inc. reserves the right to make changes at any time without notice to price, color, material, equipment, specifications, models, machine operation, tooling requirements and availability. Catalog may have been updated since the time of printing.

FOR COMPLETE TECHNICAL SPECIFICATIONS

563.391.7700

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CE35



Pipe (Max.)	1½" Sch. 40
Angle (Max.)	1½" x 1½" x ¼"
Roll Shaft Diameter	40mm
Center Roll Positioning	Manual
Degree of Bend	0-210°

All capacities based on mild grade materials; heavy wall and high tensile materials reduce machine capacity.

Specifications			
Shaft Speed	6-12 RPM		
Universal Tooling	Included - 65/8" O.D.		
Programming	Not available		
Distance between Shafts	113/8"		
Operating Voltage	220V 1ph		
Length, Width, Height	27½" x 25½" x 59"		

480 lbs.

Minimum Radius Guide on Pages 14-15 **Universal Tooling Sets on Page 9**

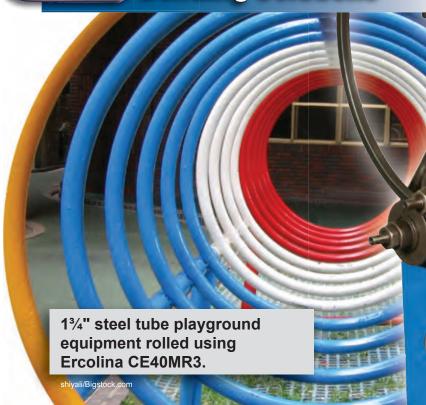


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Horizontal or vertical operation

- 20% faster bending speeds than competitive machines
- Universal tooling set included with each machine
- Reinforced engineered mainframe design proven to outperform competitive models
- Simultaneous downfeed and roll movement minimizes deformation
- Touchpad controls with digital center roll positioning
- Threaded roll shafts with micrometric flange adjustment helps eliminate spacer usage
- Inline direct drive roll shaft system
- Optional anti-twist correction system for angle iron "Leg In" applications

ERCOLINE Bending Solutions



Weight

CE40

Manual or hydraulic

- 20% faster bending speeds than competitive machines
- Universal tooling set included with each machine
- Reinforced engineered mainframe design proven to outperform competitive models
- Simultaneous downfeed and roll movement minimizes deformation
- Touchpad controls with digital center roll positioning
- 40H3 hydraulic machine with memory storage has eight (8) individual programs and unlimited passes
- Inline direct drive roll shaft system
 - Optional anti-twist correction system for angle iron "Leg In" applications





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Bending	vana	
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CE40MR3 Model **CE40H3** 2" Sch. 40 Pipe (Max.) 2" Sch. 40 2" x 2" x 1/4" 2" x 2" x 1/4" Angle (Max.) Roll Shaft Diameter 40mm 40mm Center Roll Positioning Manual with Hydraulic patented torque 10 Tons multiplier

All capacities based on mild steel with machine in "Low bending speed".

specifications				
Shaft Speed	10 RPM	10 RPM		
Universal Tooling (Included)	65%″ O.D.	65⁄8″ O.D.		
Programming	Not available	NC - Touchpad		
	Not available	8		
Distance between Shafts	105/8"	105/8"		
Operating Voltage	220V or 440V 3ph	220V or 440V 3ph		
_ength, Width, Height	39" x 26" x 59"	39" x 26" x 59"		
Weight	763 lbs.	850 lbs.		

Minimum Radius Guide on Pages 14-15 Universal Tooling Sets on Page 9

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CE50



Bending Capacities

Model
Pipe (Max.)
Angle (Max.)
Roll Shaft Diameter
Center Roll Positioning

CE50MR3 2½" Sch. 40 2%" x 23/6" x ¼" 50mm Manual with patented torque multiplier CE50H3 2½" Sch. 40 2%" x 2%" x ¼" 50mm Hydraulic 12 Tons

All capacities based on mild steel with machine in "Low bending speed".

Specifications

Shaft Speed	
Universal Tooling (Included)	
Programming	
Number of Programs	
Distance between Shafts	;
Operating Voltage	
Length, Width, Height	
Weight	

9 RPM 7" O.D. Not available Not available 117/8" 220V or 440V 3ph 45" x 29" x 61" 1056 lbs.

9 RPM 7" O.D. NC - Touchpad 8 111//s" 220V or 440V 3ph 45" x 29" x 52" 1100 lbs.

Minimum Radius Guide on Pages 14-15 Universal Tooling Sets on Page 9



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20% Faster bending speeds than competitive machines

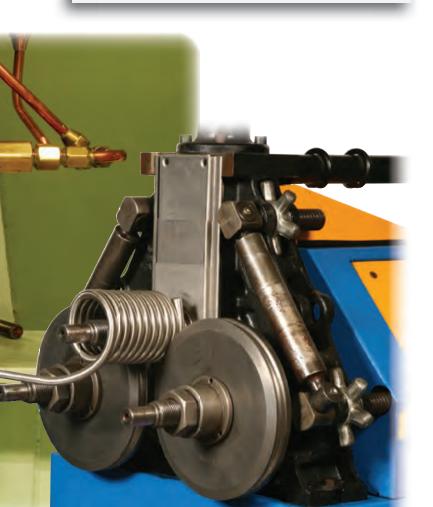
- Universal tooling set included with each machine
- Forged roll shafts precision ground and fitted for maximum performance and minimum deflection.
- Reinforced engineered mainframe design proven to outperform competitive models
- Simultaneous downfeed and roll movement minimizes deformation
- Touchpad controls with digital center roll positioning
- 50H3 hydraulic machine with memory storage has eight (8) individual programs and unlimited passes
- Inline direct drive roll shaft system
- Optional anti-twist correction system for angle iron "Leg In" applications



CE70

Heavy duty structure for high section modulus rating

- 20% faster bending speeds than competitive machines
- Forged roll shafts precision ground and fitted for maximum performance and minimal deflection
- Reinforced engineered mainframe design proven to outperform competitive models
- Patented by Ercolina® simultaneous downfeed and roll movement minimizes deformation
- Remote control pendent with low voltage controls and foot pedal switch
- Threaded roll shafts with micrometric flange adjustment helps eliminate spacer usage
- Inline direct drive roll shaft system





Bending Capacities				
Model	CE70H3-RLI w/Hydraulic 3 Axis Twist	CE70H3 w/Manual 3 Axis Twist		
Pipe (Max.)	3" Sch. 40	3" Sch. 40		
Angle (Max.)	3" x 3" x 3/8"	3" x 3" x 3%"		
Roll Shaft Diameter	70mm	70mm		
Center Roll Positioning	Hydraulic 16 Tons	Hydraulic 16 Tons		

All capacities based on mild steel with machine in "Low bending speed".

Specifications				
Shaft Speed	8 RPM	8 RPM		
Universal Tooling (Included)	9½" O.D.	9½" O.D.		
Programming	NC - Touchpad	NC - Touchpad		
Number of Programs	8	8		
Distance between Shafts	15"	15"		
Section Modulus	35 cm ³	35 cm³		
Operating Voltage	220-440V 3ph	220-440V 3ph		
Length, Width, Height	54" x 43" x 57"	54" x 43" x 57"		
Weight	3100 lbs.	2860 lbs.		

Minimum Radius Guide on Pages 14-15 Universal Tooling Sets on Page 9

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CE100



Bending Capacities

Model	CE100H3-RLI
Pipe (Max.)	4" Sch. 40
Angle (Max.)	4" x 4" x ½"
Roll Shaft Diameter	100mm
Center Roll Positioning	Hydraulic
	30 Tons

All capacities based on mild steel with machine in "Low bending speed".

Specifications				
Shaft Speed	6 RPM			
Universal Tooling (Included)	125/8" O.D.			
Programming	NC - Touchpad			
Number of Programs	8			
Distance between Shafts	191/4"			
Section Modulus	90 cm ³			
Operating Voltage	220-440V 3ph			
Length, Width, Height	66" x 58" x 83"			
Weight	5550 lbs.			

Minimum Radius Guide on Pages 14-15 Universal Tooling Sets on Page 9

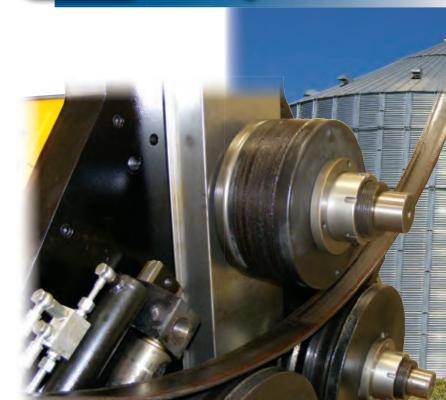


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Maximum performance and minimal deflection

- 20% faster bending speeds than competitive machines
- Heavy duty structure and rigid components for high section modulus ratings
- Reinforced engineered mainframe design proven to outperform competitive models
- Patented by Ercolina® simultaneous downfeed and roll movement minimizes deformation
- Threaded roll shafts with micrometric flange adjustment helps eliminate spacer usage
- Inline direct drive roll shaft system
- Three axis hydraulic anti-twist system for angle iron "Leg In" applications

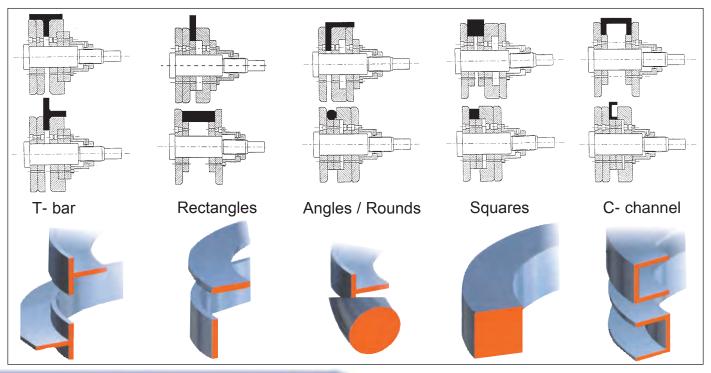


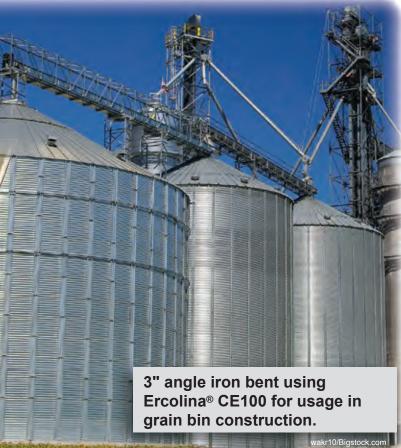


Universal Tooling Sets

All Ercolina® angle roll-section bending machines **include** universal tooling sets. Universal tooling adjusts easily to bend the following profiles:

Part#	Description	
C4ST	CE40 ~ Universal tooling set	Rolls 170mm OD, spacers 110 mm OD
C5ST	CE50 ~ Universal tooling set	Rolls 180mm OD, spacers 110 mm OD





Modular Tooling Sets

Modular tooling sets support profiles, maintain smooth radius edges and reduce sharp knife-like edges.



Part#	Description	Spacer OD
C4RC	CE35-CE40 ~ 6 flanges and 6 spacers	110mm
C5RC	CE50 ~ 6 flanges and 9 spacers	
C70RC	CE70 ~ 6 flanges and 15 spacers	
C100RC	CE100 ~ 6 flanges and 12 spacers	

FOR COMPLETE TECHNICAL SPECIFICATIONS

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Angle Roll-Section Bender Tube Tooling Sets

Size	Decimal	CE35	CE40	CE50	CE70	CE100
1/4"	.250	C401T0250	C401T0250	C501T0250	NA	NA
3/8"	.375	C401T0375	C401T0375	C501T0375	NA	NA
1/2"	.500	C401T0500	C401T0500	C501T0500	NA	NA
5/8"	.625	C401T0625	C401T0625	C501T0625	NA	NA
3/4"	.750	C401T0750	C401T0750	C501T0750	NA	NA
7/8"	.875	C401T0875	C401T0875	C501T0875	NA	NA
1"	1.000	C401T1000	C401T1000	C501T1000	NS*	NS*
11/8"	1.125	C401T1125	C401T1125	C501T1125	NS*	NS*
11/4"	1.250	C401T1250	C401T1250	C501T1250	NS*	NS*
13/8"	1.375	C401T1375	C401T1375	C501T1375	NS*	NS*
1½"	1.500	C401T1500	C401T1500	C501T1500	NS*	NS*
15/8"	1.625	C401T1625	C401T1625	C501T1625	NS*	NS*
13/4"	1.750	C401T1750	C401T1750	C501T1750	NS*	NS*
11/8"	1.875	C401T1875	C401T1875	C501T1875	NS*	NS*
2"	2.000	C401T2000	C401T2000	C501T2000	C70T2000	C100T2000
21/8"	2.125	NA	C401T2125	C501T2125	NS*	NS*
21/4"	2.250	NA	C401T2250	C501T2250	NS*	NS*
23/8"	2.375	NA	C401T2375	C501T2375	NS*	NS*
21/2"	2.500	NA	C401T2500	C501T2500	C70T2500	C100T2500
23/4"	2.750	NA	C401T2750	C501T2750	NS*	NS*
3"	3.000	NA	NA	C501T3000	C70T3000	C100T3000
3½"	3.500	NA	NA	NA	C70T3500	C100T3500
4"	4.000	NA	NA	NA	NA	C100T4000

^{*} Not stocked. Special order - consult factory for delivery.

Angle Roll-Section Bender Pipe Tooling Sets





Combination twin groove tool sets

Size	O.D.	CE35	CE40	CE50	CE70	CE100
1/4"	. 540	C401P0250	C401P0250	C501P0250	NA	NA
3/8"	.675	C401P0375	C401P0375	C501P0375	NS*	NS*
1/2"	.840	C4SPD2*	C4SPD2*	C5SPD2*	NS*	NS*
3/4"	1.050	C4SPD1*	C4SPD1*	C5SPD1*	NS*	NS*
1"	1.315	C4SPD1*	C4SPD1*	C5SPD1*	C70P1000	C100P1000
11/4"	1.660	C4SPD2*	C4SPD2*	C5SPD2*	C70P1250	C100P1250
11/2"	1.900	C401P1500	C401P1500	C501P1500	C70P1500	C100P1500
2"	2.375	NA	C401P2000	C501P2000	C70P2000	C100P2000
21/2"	2.875	NA	NA	C501P2500	C70P2500	C100P2500
3"	3.500	NA	NA	NA	C70P3000	C100P3000
31/2"	4.000	NA	NA	NA	NA	C100P3500
4"	4.500	NA	NA	NA	NA	C100P4000

^{*} Not stocked. Special order - consult factory for delivery.

Consult factory for tooling sizes not shown.

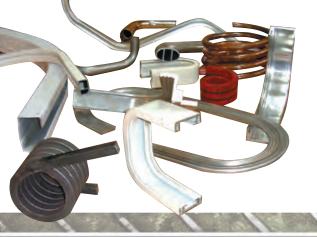
Polymer Roll Tooling Sets







Polymer tooling maintains material appearance reducing scratching and blemishes.



Polymer Pipe Tooling

Size	O.D.	CE35 - CE40	CE50
1"	1.315	C401NP1000	C501NP1000
11/4"	1.660	C401NP1250	C501NP1250
11/2"	1.900	C401NP1500	C501NP1500
2"	2.375	C401NP2000	C501NP2000
21/2"	2.875	NA	C501NP2500

Polymer Tube Tooling

Size	O.D.	CE35 - CE40	CE50
1"	1.000	C401NT1000	C501NT1000
11/4"	1.250	C401NT1250	C501NT1250
11/2"	1.500	C401NT1500	C501NT1500
13/4"	1.750	C401NT1750	C501NT1750
2"	2.000	C401NT2000	C501NT2000
21/2"	2.500	C401NT2500	C501NT2500

Small Radius Tooling

Small Radius Tooling

Adjustable tooling set for small radius bending applications.

Tooling Material Capacities

Profile	Maximum
Square solids	5/8" X 5/8"
Rectangular solids	3/4" X 1/4"
Rounds	5/8"
T Stock	3/4" X 3/4"

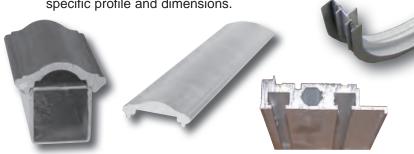
Part# C4RR fits CE35 - CE40 Part# C5RR fits CE50





Cap Rail & Profile Tooling

Available by special order for CE35, CE40, CE50, CE70 & CE100 machines. Consult CML USA with specific profile and dimensions.



FOR COMPLETE TECHNICAL SPECIFICATIONS

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Ornamental Metalworking Accessories



Two in one accessory

- Quickly adapts to CE40 and CE50 angle rolls to create custom components for ornamental gates, railing and more
- Twists balusters up to 1" square
- Heavy duty construction with over (7') of workable table length
- Electromechanical interface provided to control rotation and repeatability
- Self aligning chuck and quick release tailstock system for easy material changeover



Scroll Curling Device

Part# CR4A8 fits CE40 Part# CR5A8 fits CE50



Added versatility

- Quickly adapts to CE40 and CE50 ring rolls to produce ornamental scrollwork
- Curls up to 1/4" x 2" mild steel
- Electromechanical interface provided to control exact rotation and repeatability
- Patented scroll pattern chain with removable links allows operator to select desired scroll pattern





Scroll Chain Radius Chart									
@									
1	Min	Max	Min	Max	Min	Max	L	Standard No. of Spirals	
SMALL Chain Part # CERCP	3/16" X 3/8"	1/4" X 3/4"	3/16" X 3/16"	½" x ½"	3/16"	1/4"	43/8"	2	
MEDIUM Chain Part # CERCM	5/16" X 3/8"	5⁄16 " x 11∕2"	5/16" X 5/16"	3/8" X 3/8"	5/16"	5/16"	43/8"	3	
LARGE Chain Part # CERCG	½" x ½"	3⁄8" x 13∕16"	1/4" x 1/4"	5/8" X 5/8"	1/4"	5/8"	97/8"	2	

Angle Roll-Section Bender Accessories



Tie Bar Accessory

Recommended when bending large profiles or heavy wall material. Increases roll shaft rigidity and radii accuracy. Part# **C5A2** fits CE40 and CE50



Anti-Twist Device

Required for Angle iron
"Leg In" applications.
Part# CEA4-ECO40 fits CE35
Part# C5A4 fits CE40 and CE50

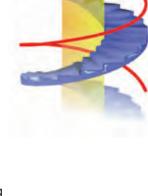


ELI-Soft Spiral Bending Kit

For use with Large Spiral Bending Accessory. Ercolina's optional software helps minimize setup associated with spiral bending applications. Enter material size, rise and run; software calculates and recommends center roll positioning.

Complete Kit includes ELI-Soft bending software, manual, short bow, long bow, and rotation gauge.

Part# ELIKIT



Large Spiral Bending Accessory

Ideal for large pitch spiral bending applications. Material capacity 2" outside diameter.

Part# CS5A11 fits CE40 and CE50

Part# CS7A11 fits CE70



Radius & Degree Measuring Kit
Part# KARC



Minimum Radius Guide On Mild Steel Material

		CE35		CE40		
Profile Type	Profile Dimensions	Min. CLR Inches	Wall	Profile Dimensions	Min. CLR Inches	Wall
Pipe	1/2"	6	.109	1/2"	6	.109
	1"	10	.133	1"	10	.133
	11/4"	15	.140	2"	18	.154
Tube	1"	6	.120	1"	6	.120
	1½"	12	.120	1½"	12	.120
	2"	16	.095	2½"	25	.083
Square Tube	3/4"	8	.065	3/4" X 3/4"	6	.083
	1½"	18	.120	1½" x 1½"	16	.083
				2" x 2"	24	.120
Rectangular Tube	3/8" x 1"	10	.065	½" x 1¼"	10	.083
Hard way	½" x 1¼"	14	.095	1" x 1½"	12	.120
				1" x 2"	24	.120
Rectangular Tube	1" x 3/8"	10	.065	1¼" x ½"	10	.083
Easy way	11/4" x 1/2"	18	.095	2" x 1"	20	.120
Round Solid	3/4"	4*	NA	3/4"	4*	NA
Rodina Jones				1¼"	12	NA
Square Solid	5/8"	4*	NA	3/4"	4*	NA
oquai o oona	1"	8	NA	1"	8	NA
				11/4"	10	NA
Rectangular Solid	3/8" x 11/4"	8	NA	½" x 1½"	12	NA
Hard way	3/8" x 11/2"	10	NA	1/4" x 2"	16	NA
i laiu way				½" x 2"	18	NA
Rectangular Solid	11/4" x 3/8"	6	NA	1¼" x 3/8"	6*	NA
_	1½" x ¾"	8	NA	2½" x ½"	8	NA
Easy way				3" x ½"	16	NA
Angle "Leg Out"	1" x 1"	8	.125	1" x 1"	8	.120
Aligie Leg Out	1½" x 1½"	16	.187	1½" x 1½"	12	.120
	1,2 , 1,2			2" x 2"	16	.187
Angle #Leg In#	1" x 1"	10	.125	1" x 1"	10	.120
Angle "Leg In"	1½" x 1½"	18	.187	1½" x 1½"	16	.120
	1/2 / 1/2	.0	. 101	2" x 2"	28	.187
C "Log Out"	1½" x ½"	8	.187	1½" x ½"	10	.120
C "Leg Out"	1/4 / / / 2	Ü	. 107	2" x 11/4"	14	.187
C #1 o a lp#	1½" x ¾"	8	.187	1½" x ¾"	10	.187
C "Leg In"	1/2 A /4	Ü	. 107	2½" x 1¼"	14	.187
				∠/2 X 1/4	17	.101

^{1.} Capacities based on mild grade material, number of bending passes may vary.

^{2.} Tie Bar accessory required for bending large profiles.

^{3.} Two roll drive machines increase minimum CLR.

Ercolina® Angle Rolls-Section Benders

Profile Min. CLR Profile Min. CLR Profile	Min. CLR
Dimensions Inches Wall Dimensions Inches Wall Dimensions	Inches Wall
³ / ₄ " 8 .113 1½" 16 .145 2"	16 .154
2" 12 .154 3" 24 .216 4"	36 .237
2½" 16 .203	
1" 6 .120 1½" 16 .120 2"	12 .120
2½" 18 .120 4" 30 .187 4"	32 .187
3" 24 .120 6"	76 .187
34" x 34" 6 .083 1½" x 1½" 12 .120 2" x 2"	14 .120
2" x 2" 20 .120 3" x 3" 48 .187 4" x 4"	72 .187
2½" x 2½" 30 .120	
½" x 1" 8 .083 ½" x 1½" 10 .120 1" x 2½"	16 .187
1½" x 2½" 18 .120 2" x 4" 48 .187 2" x 4"	48 .187
1½" x 3" 34 .120	
1¼" x ½" 10 .083 1½" x ½" 10 .120 2½" x 1"	14 .187
2½" x 1½" 24 .120 4" x 2" 72 .187 4" x 2"	72 .187
3" x 1½" 32 .120	
34" 4* NA 11/4" 6* NA 11/2"	8* NA
1½" 14 NA 2" 16 NA 2½"	24 NA
³ / ₄ " 4* NA 1½" 10* NA 1½"	14 NA
1¼" 10 NA 2" 16 NA 2"	18 NA
1½" 10 NA	
38" x 34" 6* NA ½" x 1½" 14 NA ½" x 1½"	16 NA
½" x 2" 10 NA ½" x 3" 32 NA ¾" x 4"	42 NA
½" x 2½" 18 NA	
2" x ½" 8 NA 1½" x ½" 12 NA 2" x ½"	14 NA
4" x ½" 12 NA 4" x 1" 16 NA 6" x 1"	32 NA
1" x 1" 8 .120 1½" x 1½" 14 .187 2" x 2"	16 .187
2" x 2" 16 .236 3" x 3" 28 .375 3" x 3"	28 .375
2¾" x 2¾" 20 .236 4" x 4"	36 .500
1" x 1" 10 .120 1½" x 1½" 16 .187 2" x 2"	20 .187
2" x 2" 18 .236 3" x 3" 32 .375 3" x 3"	32 .375
23/8" x 23/8" 22 .236 4" x 4"	40 .500
1¼" x ½" 10 .120 2" x 1" 14 .187 2" x 1"	14 .187
3" x 1½" 15 .187 4" x 1½" 24 .187 6" x 2"	60 .375
1½" x ¾" 10 .187 2" x 1" 14 .125 2" x 1"	14 .187
3" x 1½" 16 .187 4" x 1½" 24 .187 6" x 2"	60 .375

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