



Comal Italia

**Italian Technology at its best
Designers and builders of quality metal fabrication
equipment**



Delta Hydraulic with digital readout option installed. Lever actuated hydraulic control valves mounted on the machine's frame

Delta Hydraulic

***Initial Pinch Three Roll
Hydraulic Plate Bending
Machines***



Comal Italia

Delta Hydraulic

Delta Hydraulic is the more versatile of the Initial pinch rolls machines COMAL builds. It is compact and self-contained. It is built and assembled with the same care and quality as the larger COMAL hydraulic plate rolls.

The Delta-H models are initial pinch machines. Their driven rolls are mechanically powered via a electrical gear-motor. The top roll and pinching roll are driven hydraulically, in rotation.

The pinching roll and the bending roll are also powered for movement hydraulically.



Delta-Hydraulic with digital readout option

All lever actuated hydraulic valves are mounted on the frame of the machine and easily accessible by the operator



Manual drop end is a standard feature on the Delta-H Models

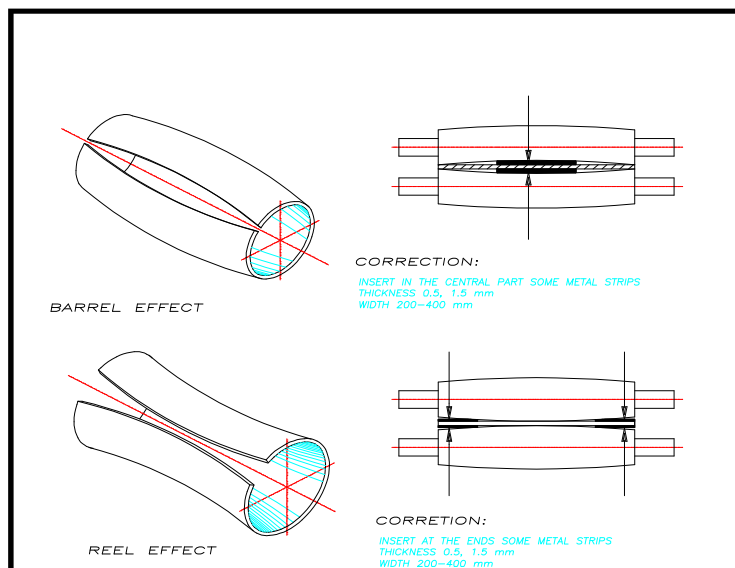
Standard Features

- Frame built of laser cut high strength steel, welded, stress relieved and sand blasted.
- All UL listed GE electrical components or equivalent installed in a UL listed NEMA 12 equivalent electrical cabinet with master breaker
- Hydraulic unit by Rexroth and valves by Aron
- Two driven rolls, top and pinching roll
- Three extended rolls to accept section forming tooling
- Power lifting of pinching and bending rolls
- Bending rolls assembled on bearings
- Manual drop-end
- Tilting of bending roll directly from controls console
- Controls console with levers on machine frame
- Safety devices and operating manual according to CE norms

Optional Features and Equipment

- Hardened rolls HRC 54 - 56
- Variable speed
- Powered rotation of the bending roll
- Hydraulic drop-end
- Separate control desk with solenoid valves instead of lever actuated valves
- Universal section bending tools
- Cone bending device
- Digital readout for bending roll
- Vertical hydraulic support \varnothing 2500 mm/ 98"
- Hydraulic side-support Max. 1500 Kg/ 3310 lbs

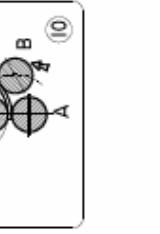
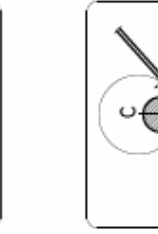
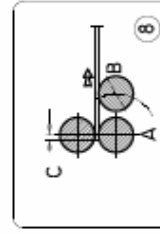
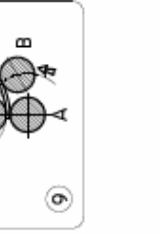
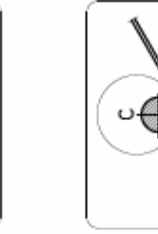
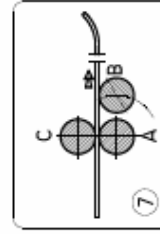
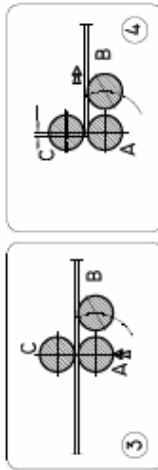
Note: A roll, which is supported from both ends, will experience deflection from its centerline throughout its length when any force is applied to it anywhere between the supports. Since it is imperative for the rolls to make full contact with the work-piece during forming to avoid deformation of the cylinder rolled, a method was devised to compensate for the deflection by cambering the rolls. The camber, within a certain range of thickness, will compensate for the undesirable deflection. Beyond that, "cheating" of the rolls is required by shimming the plate with cardboard or thin stock to avoid rolling concave or convex cylinders, or using our industry's terms "Hour glass" and "Barrel" effects.



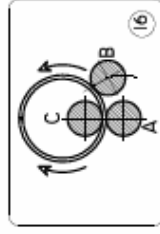
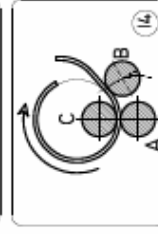
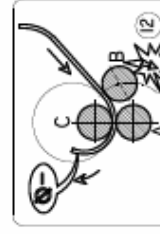
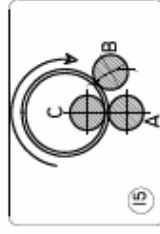
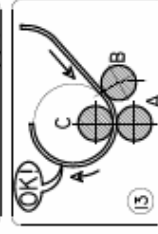
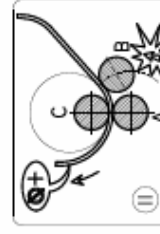
ROLLING ON INITIAL PINCH MACHINES



CURVATURA DEL PRIMO LEMBO DELLA LAMIERA (INVITO)
PREBENDING OF THE PLATE, FIRST SIDE
ANBIEGUNG DES BLECHES, ERSTER SEITE
CROQUAGE DE LA TOLE, PREMIERE COTE



ROVESCIMENTO DELLA LAMIERA E CURVATURA DEL LEMBO FINALE
OVERTURNING OF THE PLATE AND SECOND SIDE PREBENDING
UMKEHREN DES BLECHES UND ANBIEGUNG DER ZWEITEN SEITE
REVERSEMENT DE LA TOLE ET CROQUAGE DE LA DEUXIEME COTE



CHIUSURA DELLA VIOLA E CALIBRATURA DELLA CURVATURA
PIPE CLOSING AND BENDING CALIBRATION
ROHRENSCHLIESSUNG UND EICHUNG DER BIEGUNG
FERMETURE DU CYLINDRE ET ETALONNAGE DU CINTRAGE



SPECIFICATIONS—*Delta Hydraulic*

**RATED AT 50,000 PSI or 350 N/mm² MATERIAL YIELD STRENGTH
AND ROLLING AT FULL USEFUL LENGTH**

MODEL	USEFUL ROLL LENGTH	AT 1.4X ROLLS Ø THICKNESS CAPACITY	ROLLS Øs	MACHINE DIMENSIONS & WEIGHT				POWER
				LENGTH	WIDTH	HEIGHT	WEIGHT	
DH/90/11	1100mm	2,5mm	90mm	1900mm	550mm	1100mm	530Kg	1,1Kw
	43" (3ft+)	12ga	3.543"	75"	22"	43"	1170 lbs	1.5HP
DH/90/16	1600mm	1,7mm	90mm	2400mm	550mm	1100mm	630Kg	1,1Kw
	63" (5ft+)	15ga	3.543"	95"	22"	43"	1390 lbs	1.5HP
DH/90/21	2100mm	1,2mm	90mm	2900mm	550mm	1100mm	740Kg	1,1Kw
	83" (6ft+)	18ga	3.543"	114"	22"	43"	1632 lbs	1.5HP
DH/105/11	1100mm	3,3mm	105mm	1950mm	550mm	1100mm	710Kg	1,5Kw
	43" (3ft+)	10ga	4.134"	77"	22"	43"	1566 lbs	2HP
DH/105/16	1600mm	2,1mm	105mm	2450mm	550mm	1100mm	860Kg	1,5Kw
	63" (5ft+)	13ga	4.134"	96"	22"	43"	1897 lbs	2HP
DH/105/21	2100mm	1,7mm	105mm	2950mm	550mm	1100mm	1010Kg	1,5Kw
	83" (6ft+)	15ga	4.134"	116"	22"	43"	2228 lbs	2HP
DH/140/11	1100mm	6mm	140mm	2150mm	820mm	1050mm	1115Kg	2,2Kw
	43" (3ft+)	0.236"	5.512"	85"	32"	42"	2460 lbs	3HP
DH/140/16	1600mm	5mm	140mm	2650mm	820mm	1050mm	1365Kg	2,2Kw
	63" (5ft+)	0.197"	5.512"	104"	32"	42"	3010 lbs	3HP
DH/140/21	2100mm	3,3mm	140mm	3150mm	820mm	1050mm	1615Kg	2,2Kw
	83" (6ft+)	10ga	5.512"	124"	32"	42"	3562 lbs	3HP
DH/140/26	2600mm	2,5mm	140mm	3650mm	820mm	1050mm	1915Kg	2,2Kw
	102" (8ft+)	12ga	5.512"	144"	32"	42"	4223 lbs	3HP
DH/140/31	3100mm	1,7mm	140mm	4150mm	820mm	1050mm	2165Kg	2,2Kw
	122" (10ft+)	15ga	5.512"	164"	32"	42"	4774 lbs	3HP

SPECIFICATIONS—*Delta Hydraulic (cont'd)*

**RATED AT 50,000 PSI or 350 N/mm² MATERIAL YIELD
STRENGTH
AND ROLLING AT FULL USEFUL LENGTH**

MODEL	USEFUL ROLL LENGTH	AT 1.4XROLLS Ø THICKNESS CAPACITY	ROLLS Øs	MACHINE DIMENSIONS & WEIGHT				
				LENGTH	WIDTH	HEIGHT	WEIGHT	POWER
DH/160/16	1600mm	6mm	160mm	2700mm	840mm	1080mm	1520Kg	3Kw
	63" (5ft+)	0.236"	6.300"	106"	33"	43"	3352 lbs	4HP
DH/160/21	2100mm	4,2mm	160mm	3200mm	840mm	1080mm	1770Kg	3Kw
	83" (6ft+)	0.165"	6.300"	126"	33"	43"	3905 lbs	4HP
DH/160/26	2600mm	3mm	160mm	3700mm	840mm	1080mm	2020Kg	3Kw
	102" (8ft+)	11ga	6.300"	146"	33"	43"	4455 lbs	4HP
DH/160/31	3100mm	2mm	160mm	4200mm	840mm	1080mm	2320Kg	3Kw
	122" (10ft+)	14ga	6.300"	166"	33"	43"	5116 lbs	4HP
DH/180/16	1600mm	7mm	180mm	2750mm	880mm	1100mm	2220Kg	4Kw
	63" (5ft+)	0.276"	7.087"	108"	35"	44"	4896 lbs	5.5HP
DH/180/21	2100mm	5mm	180mm	3250mm	880mm	1100mm	2620Kg	4Kw
	83" (6ft+)	0.197"	7.087"	128"	35"	44"	5778 lbs	5.5HP
DH/180/26	2600mm	4,2mm	180mm	3750mm	880mm	1100mm	3120Kg	4Kw
	102" (8ft+)	0.165"	7.087"	148"	35"	44"	6880 lbs	5.5HP
DH/180/31	3100mm	3,3mm	180mm	4250mm	880mm	1100mm	3620Kg	4Kw
	122" (10ft+)	10ga	7.087"	167"	35"	44"	7982 lbs	5.5HP

SPECIFICATIONS—*Delta Hydraulic*

**RATED AT 36,000 PSI or 250 N/mm² MATERIAL YIELD STRENGTH
AND ROLLING AT FULL USEFUL LENGTH**

MODEL	USEFUL ROLL LENGTH	AT 1.4 ROLLS Ø THICKNESS CAPACITY	ROLLS Øs	MACHINE DIMENSIONS & WEIGHT				POWER
				LENGTH	WIDTH	HEIGHT	WEIGHT	
DH/90/11	1100mm	3mm	90mm	1900mm	550mm	1100mm	530Kg	1,1Kw
	43" (3ft+)	11ga	3.543"	75"	22"	43"	1170 lbs	1.5HP
DH/90/16	1600mm	2mm	90mm	2400mm	550mm	1100mm	630Kg	1,1Kw
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DH/90/21	2100mm	1,5mm	90mm	2900mm	550mm	1100mm	740Kg	1,1Kw
	83" (6ft+)	16ga	3.543"	114"	22"	43"	1632 lbs	1.5HP
DH/105/11	1100mm	4mm	105mm	1950mm	550mm	1100mm	710Kg	1,5Kw
	43" (3ft+)	0.157"	4.134"	77"	22"	43"	1566 lbs	2HP
DH/105/16	1600mm	2,5mm	105mm	2450mm	550mm	1100mm	860Kg	1,5Kw
	63" (5ft+)	12ga	4.134"	96"	22"	43"	1897 lbs	2HP
DH/105/21	2100mm	2mm	105mm	2950mm	550mm	1100mm	1010Kg	1,5Kw
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DH/180/16	1600mm	8mm	180mm	2750mm	880mm	1100mm	2220Kg	4Kw
	63" (5ft+)	0.315"	7.087"	108"	35"	44"	4896 lbs	5.5HP
DH/180/21	2100mm	6mm	180mm	3250mm	880mm	1100mm	2620Kg	4Kw
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