



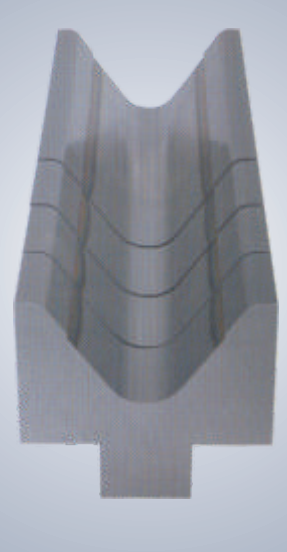
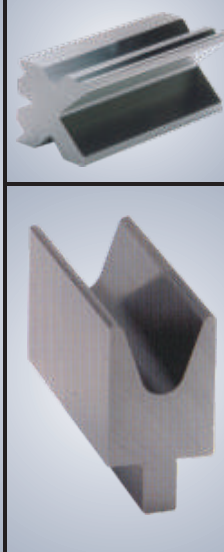
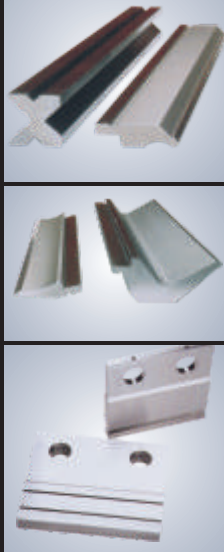
**Trimans**<sup>®</sup>  
Hydraulic Press Brakes, Shears & Presses

## Hydraulic Press Brakes NC & Conventional Version



**NuGEN**<sup>®</sup>  
Machineries Ltd.  
Innovative > Perfection > Reliability





### Bending Operations Suitable For :

- Electrical Control Panels
- Steel Doors and Windows
- Steel Furniture
- Cable Trays
- Kitchen Equipments (Kitchen Sinks)
- Refrigeration, Air Conditioning Industry (Refrigerator and AC Body, Ducts etc.)
- Dairy Equipments (Square & Rectangular Tanks in Stainless Steel)
- Luminaries in Tube Light Fittings
- Construction & Earth Moving Equipments
- Pharmaceutical Equipments
- Other Bending Applications

### Low cost and high quality bending solution through **trimans**® NC Hydraulic Press Brakes...

Nugen offers **trimans**® NC hydraulic press brake from their state of the art manufacturing plant.

Equipped with renowned European make B&R Controller, Servo motor, Servo drive and high precision linear scale & ball screws.

NC version hydraulic press brakes reduces material handling time, inventory of semi-finished jobs and work in progress cost thus increasing the productivity.

All machines are being manufactured as per IMTMA standards.

### Salient Features :

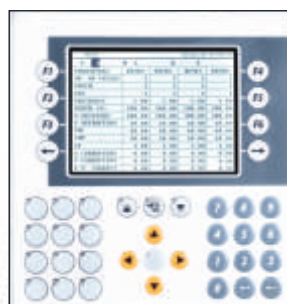
- Fitted with two axes NC controller viz. NC stroke (Y-axis) and NC back gauge (X-axis).
- Programmable NC back gauge speed.
- Enables operator to bend jobs with 1 to 8 bends on each edge in one set up.
- Manual marking is totally eliminated due to NC gauging.
- Automatic retraction of back gauge on pinch point.
- Can accommodate more axes especially ADU with Wila Wedges. (optional)
- Numeric controlled ram speed and positioning.

### Memory Information :

- 99 Programms. Each programme with 8 bends gives 792 sequences.
- Each program can count 9,999 jobs and each bend has 99,999 cycles.
- Tool data for 10 Die and 10 Punch can be set in memory.
- Three years for battery back up memory.
- PC interface with standard RS 232 cable for downloading the programme.



Capacity 60 MT x 2500 mm



Power Panel (B&R)



Servo Drive / Motor (B&R)

# PBR NC Series

## NC Hydraulic Press Brakes

Capacity 20 MT to 500 MT  
Width 1500 mm to 6000 mm



Capacity 100 MT x 3000 mm



# PBR Series

## Conventional Hydraulic Press Brakes

Capacity 20 MT to 500 MT  
Width 1500 mm to 6000 mm



Capacity 400 MT x 4000 mm

### Economical and multi-purpose general sheet metal press work solution through Conventional Hydraulic Press Brakes...

#### Salient Features :

- A tough, well dimensional structure made out of IS 2062 Gr. B, ultrasonically tested material to withstand continuous and minimum deflection under full load.
- Rugged torsion tube ensures parallel motion of ram avoiding need for complicated and costly servo hydraulics.
- Accuracy of ram movement with special five piece guide system provided with non-metallic lubrication free liners for long life.
- Three speeds reduces idle travel time and thus improves productivity.
- Noiseless operation and least impact load on tool and foundation.
- Low system pressure facilitates less power consumption and more seal life which reduces operating cost and maintenance and freedom from leakages.
- Comparatively bigger oil tank size increases oil cooling efficiency.
- Machines are manufactured adhering to IMTMA standards.

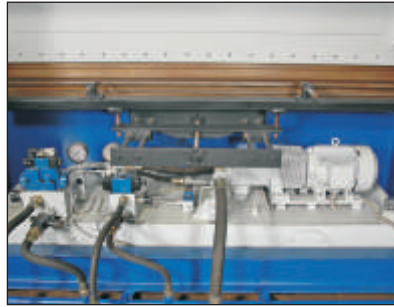


Capacity 60 MT x 2500 mm

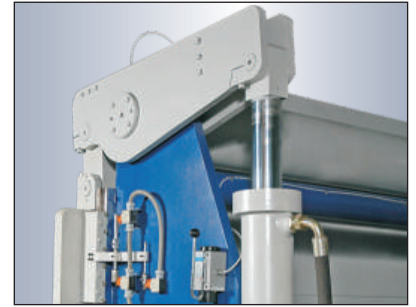
# Standard and Optional Features



Ram parallelism by simple design



Simple & well designed hydraulic power pack



Precisely manufactured hydraulic cylinders



Back gauge system (for NC version)



Linear encoder (for NC version)



Manual lubrication system



Stroke adjustment by limit switch (for Conventional version)



Electric control panel (for NC version)



Motorised lubrication unit (Optional)

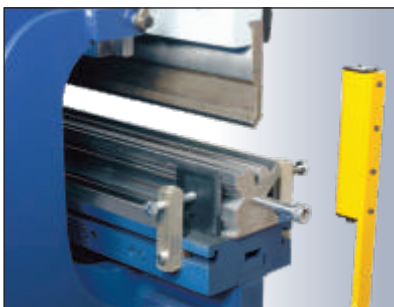
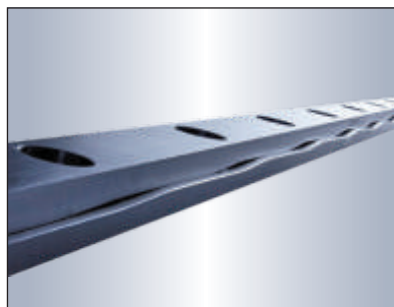


Photo electric safety guard (Optional)



Wedges (Optional) Wila, Netherland



Motorised unit for wedges (Optional) Wila, Netherland



Motorised back gauge system (Optional)



Sliding sheet support (Optional)



Extra open height (Optional)



## Metric Technical Specifications Conventional Hydraulic Press Brakes Series (Europe & Asia)

Model	Tonnage (MT)	Bending Cap. (mm) (MS-LTS 45 kg/mm <sup>2</sup> )	Table Size (mm)	Clear Passing (mm)	Ram Stroke (mm)	Open Height (mm)	Closed Height (mm)	Throat Depth (mm)	Ram Speeds (mm/Sec.)			Motor (kW) HP	Overall Dimensions (mm) Approx			Weight (kg) Approx
									Approach	Pressing	Return		Length	Width	Height	
PBR 215	20	1.62 x 1500	125 x 1500	1250	100	250	150	100	40	6	38	(2.2) 3	1800	1500	2000	1500
PBR 320	30	2 x 2000	125 x 2000	1700	100	280	180	200	30	7	30	(2.2) 3	2300	1600	2000	2500
PBR 425	40	2 x 2500	170 x 2500	2000	100	280	180	200	50	6	50	(3.75) 5	2700	1850	2050	3000
PBR 520	50	3.15 x 2000	170 x 2000	1500	100	280	180	200	48	6	48	(3.75) 5	2300	1900	2200	3400
PBR 525	50	2.5 x 2500	170 x 2500	2000	100	280	180	200	48	6	48	(3.75) 5	2850	1900	2200	3700
PBR 625	60	3.15 x 2500	170 x 2500	2000	150	330	180	200	36	5	36	(3.75) 5	2850	1950	2350	3900
PBR 630	60	2.5 x 3000	170 x 3000	2500	150	330	180	200	36	5	36	(3.75) 5	3250	2000	2250	4500
PBR 825	80	4 x 2500	170 x 2500	2000	150	350	200	200	45	6	48	(5.5) 7.5	2850	2100	2350	4500
PBR 830	80	3.15 x 3000	170 x 3000	2500	150	350	200	200	45	6	48	(5.5) 7.5	3350	2100	2350	5000
PBR 1025	100	5 x 2500	170 x 2500	2000	150	350	200	200	38	5	38	(7.5) 10	2900	2200	2350	5600
PBR 1030	100	4 x 3000	170 x 3000	2500	150	350	200	200	38	5	38	(7.5) 10	3400	2200	2350	6200
PBR 1230	125	5 x 3000	220 x 3000	2500	150	350	200	300	30	5	60	(7.5) 10	3400	2450	2600	7000
PBR 1240	125	4 x 4000	220 x 4000	3000	150	350	200	300	30	5	60	(7.5) 10	4150	2450	2650	8800
PBR 1630	160	6 x 3000	220 x 3000	2500	150	350	200	300	30	5	60	(11.2) 15	3400	2500	2600	8800
PBR 1640	160	5 x 4000	220 x 4000	3000	150	350	200	300	30	5	60	(11.2) 15	4200	2500	2700	9800
PBR 2030	200	8 x 3000	220 x 3000	2500	200	410	210	300	20	5	50	(15) 20	3450	2650	2700	9500
PBR 2040	200	6 x 4000	220 x 4000	3000	200	410	210	300	20	5	50	(15) 20	4200	2650	2800	10500
PBR 3030	300	12 x 3000	300 x 3000	2500	200	460	260	300	19	5	30	(18.75) 25	3450	2750	2800	12000
PBR 3040	300	10 x 4000	300 x 4000	3000	200	460	260	300	19	5	30	(18.75) 25	4250	2750	2900	15000
PBR 4040	400	12 x 4000	400 x 4000	3000	250	500	250	400	20	5	40	(22.4) 30	4300	2900	3000	18000
PBR 5040	500	16 x 4000	400 x 4000	3000	250	550	300	400	26	6	46	(37.5) 50	4350	3000	3200	27000
PBR 5060	500	12 x 6000	400 x 6000	4500	250	550	300	400	26	6	46	(37.5) 50	6300	3200	3400	35000

**Note :** Above parameters will slightly change in NC version.

### Press Brake Selection Guidelines

Parameter	Unit
Plate Thickness (t)	mm
Ultimate Tensile Strength of Plate (S)	kg / mm <sup>2</sup>
Bending Length (L)	mm
“Vee” Die Opening (V)	mm
Minimum Internal Radius (R)	mm
Minimum Flange (H)	mm
Bending Correction Factor (K)	1.3
Required Tonnage (P)	MT

**The force required for air bending can be calculated from the formula:**

$$\text{Load, } P = \frac{K \times L \times S \times t^2}{1000 \times V} \text{ MT}$$

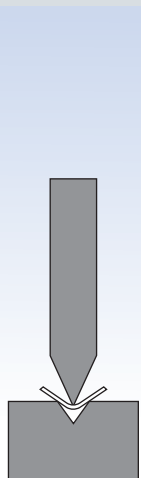
#### Air Bending :

In air bending the dies are made at more of an acute angle (85° or less than the angle to be formed). The only contact between the dies and the material occurs at the tip of the male punch and edge of the female die. The material is “Air” bent rather than “Coined” or “Bottom” bent.

**The advisable “Vee” openings for air bending are:**

V=6 to 8 x Material thickness (t), When t ≤ 4

V=8 to 12 x Material thickness (t), When t > 4



## Imperial Technical Specifications Conventional Hydraulic Press Brakes (USA & Canada)

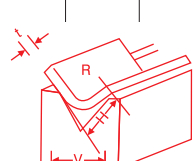
Model	Tonnage (MT)	Bending Cap. (inch) (MS-UTS 65 kpsi)	Table Size (inch)	Clear Passing (inch)	Ram Stroke (inch)	Open Height (inch)	Closed Height (inch)	Throat Depth (inch)	Ram Speeds (inch/min.)			Motor (kW) HP	Overall Dimensions (inch) Approx			Weight (lb.) Approx
									Approach	Pressing	Return		Length	Width	Height	
PBR 215	20	0.06 x 59	4.92 x 59	49	4	10	6	4	94	14	89	(2.2) 3	70	59	79	3307
PBR 320	30	0.07 x 78	4.92 x 78	66	4	11	7	8	70	16	70	(2.2) 3	90	63	79	5512
PBR 425	40	0.07 x 98	6.69 x 98	78	4	11	7	8	118	14	118	(3.75) 5	106	73	81	6614
PBR 520	50	0.12 x 78	6.69 x 78	59	4	11	7	8	113	14	113	(3.75) 5	90	75	86	7496
PBR 525	50	0.10 x 98	6.69 x 98	78	4	11	7	8	113	14	113	(3.75) 5	112	75	86	8157
PBR 625	60	0.12 x 98	6.69 x 98	78	6	13	7	8	85	12	85	(3.75) 5	112	77	93	8598
PBR 630	60	0.10 x 118	6.69 x 118	98	6	13	7	8	85	12	85	(3.75) 5	127	79	89	9921
PBR 825	80	0.15 x 98	6.69 x 98	78	6	14	8	8	106	14	113	(5.5) 7.5	112	83	93	9921
PBR 830	80	0.12 x 118	6.69 x 118	98	6	14	8	8	106	14	113	(5.5) 7.5	132	83	93	11023
PBR 1025	100	0.19 x 98	6.69 x 98	78	6	14	8	8	89	12	89	(7.5) 10	114	86	93	12346
PBR 1030	100	0.15 x 118	6.69 x 118	98	6	14	8	8	89	12	89	(7.5) 10	134	86	93	13668
PBR 1230	125	0.19 x 118	8.66 x 118	98	6	14	8	12	70	12	141	(7.5) 10	134	96	102	15432
PBR 1240	125	0.15 x 157	8.66 x 157	118	6	14	8	12	70	12	141	(7.5) 10	163	96	104	19400
PBR 1630	160	0.23 x 118	8.66 x 118	98	6	14	8	12	70	12	141	(11.2) 15	134	98	102	19400
PBR 1640	160	0.19 x 157	8.66 x 157	118	6	14	8	12	70	12	141	(11.2) 15	165	98	106	21605
PBR 2030	200	0.31 x 118	8.66 x 118	98	8	16	8	12	47	12	118	(15) 20	136	104	106	20943
PBR 2040	200	0.23 x 157	8.66 x 157	118	8	16	8	12	47	12	118	(15) 20	165	104	110	23148
PBR 3030	300	0.47 x 118	11.81 x 118	98	8	18	10	12	44	12	70	(18.75) 25	136	108	110	26454
PBR 3040	300	0.39 x 157	11.81 x 157	118	8	18	10	12	44	12	70	(18.75) 25	167	108	114	33068
PBR 4040	400	0.47 x 157	15.74 x 157	118	10	20	10	16	47	12	94	(22.4) 30	169	114	118	39681
PBR 5040	500	0.60 x 157	15.74 x 157	118	10	22	12	16	61	14	108	(37.5) 50	171	118	126	59521
PBR 5060	500	0.47 x 236	15.74 x 236	177	10	22	12	16	61	14	108	(37.5) 50	248	126	134	77158

**Note :** Above parameters will slightly change in NC version.

### Bending Force Chart (Tonnes / Meter Length)

V	4	8	12	16	20	24	32	40	48	64	80	96	120	150	180	200	250	300
H (min)	3	6	8.5	11.5	14.5	17	23	29	34	46	57	68	85	110	130	145	180	215
R (min)	0.6	1.3	2	2.7	3.3	4	5.3	6.7	8	10.5	13.5	16	20	25	30	33	42	50
0.5	4	2																
1	19	8	5															
1.5		19	12	8	7													
2		38	22	16	12	10												
2.5			37	26	20	17	12											
3			56	36	28	24	17	14	11									
4				74	56	44	32	25	20	16								
5						75	50	40	33	24	19							
6							77	57	48	35	27	23						
8								112	86	64	50	41	33					
10									150	100	80	60	51	43				
12										155	105	96	77	62	51			
15											180	150	120	96	80	72		
18												200	160	128	107	96	77	
20													250	200	170	150	120	100
25														296	250	220	178	150

For S.S.-U.T.S. 72 kg/mm<sup>2</sup>  
Multiply force by 1.6



The above chart is for reference only. For more detailed information please contact us.



#### INTRODUCTION:

NuGEN Machineries Ltd. specializes in Manufacture of “Trimans” Conventional, NC and CNC Hydraulic Press Brakes, Shears and other Sheet metal working machines for last two decades in India. The manufacturing facility is based near Ahmedabad, state of Gujarat, approx. 500 km north of Mumbai and has a workforce of 80 persons, out of whom 15 are, qualified engineers. The company is run by technocrats and professional directors who work full time in various work areas such as product design & improvements, marketing, contracts execution, after sales service, quality control, finance and customer supports according to their area of specialization and core competence.

NuGEN, An ISO 9001 certified company has introduced and pioneered the Rear Cylinder Hydraulic Press Brake in India and has also designed and manufactured Variable Rake Hydraulic Shear with in-house R & D efforts and has installed nearly 1700 Press Brakes and Shears in India and abroad. NuGEN has also successfully designed and manufactured special purpose presses and plants for manufacturing Saw Pipes (Press cap. 1,500 MT x 12,500 mm), Hydro tube test cap. range 600 to 1,000 mm dia & length 6.5 mtr. to 12.6mtr., Extrusion Presses (500 MT) and Welding Electrode Plants.

#### PRODUCT RANGE:

##### PRESS BRAKES

- Conventional Rear Cylinder Hydraulic Press Brakes  
Range 20 MT x 1500 mm to 500 MT x 6000 mm
- NC Rear Cylinder Press Brakes with European Controller, 'Y' (Ram) & 'X' (Back Gauge) Axes Programmable  
Range 20 MT x 1500 mm to 500 MT x 6000 mm
- CNC Synchro Hydraulic Press Brakes with German Hydraulics and Delem / Cybelec Controls  
Range 80 MT x 2500 mm to 500 MT x 6000 mm

##### SHEARS

- Fixed Rake Hydraulic Shear  
Range 2 mm x 1500 mm to 10 mm x 1500 mm Cap.
- Variable Rake Hydraulic Shear  
Range 4 mm x 2000 mm to 16 mm x 5000 mm Cap.
- Extra Edge Hydraulic Shear  
Range 20 mm x 3000 mm to 32 mm x 5000 mm Cap.

## For Conventional Hydraulic Press Brakes

### Standard Accessories

- Main drive motor
- Electrical control panel with selection of 'AUTO', 'Inch' & 'Single cycle auto' mode of operation
- Pair of foot switches
- Pair of lifting links
- Fine stroke adjustment rod with limit switches
- Front operated manual back gauge with fine setting knobs
- One suitable 5 way die and universal upper blade (segmented or full length; EN-8/9, not covered under warranty)
- Centralised lubrication system with hand pump
- Pair of sheet supports
- Bending chart
- Comprehensive instruction & maintenance manual

### Optional Accessories

- Deflection compensation unit (Manual)
- Ram tilting arrangement
- Hardened and ground tools & special toolings
- Motorised back gauge with DRO
- Sliding sheet supports with swing-away stoppers for front gauging
- Hydraulic tool clamping
- Photo-electric finger safety guards
- Extra finger for standard back gauge
- Automatic lubrication system
- Extra depth of throat
- Higher speed versions
- First fill of hydraulic oil
- Eventual other optionals to meet customers' requirements

## For NC Hydraulic Press Brakes

### Standard Accessories

- NC controller (swivel mounted) for axis 'Y' (for ram) and 'X' (for back gauge) with two manually displaceable stop fingers
- NC controlled back gauge system (X-axis) with ball screws, manually adjustable back gauge head for axis 'R' (vertical movement of back gauge heads) and 'Z' (Cross movement of back gauge heads)
- Main drive motor
- Pair of foot switches
- Pair of lifting links
- 2 way hardened & ground die & universal upper blade (Not covered under warranty)
- Centralized lubrication system with hand pump
- Pair of sheet supports
- Bending chart
- Comprehensive instruction & maintenance manual

### Optional Accessories

- Multi-axes back gauge
- Deflection compensation unit (Manual/Motorised)
- Ram tilting arrangement
- Special tooling
- Sliding sheet supports with swing-away stoppers for front gauging
- Hydraulic tool clamping
- Photo-electric finger safety guards
- Extra finger for standard back gauge
- Automatic lubrication system
- Extra depth of throat
- Higher speed versions
- First fill of hydraulic oil
- Eventual other optionals to meet customers' requirements



**The NuGEN Advantages :**

- ISO 9001:2000 certified company
- Wide product range
- Prompt delivery
- Prompt service support after sales
- Guidance for machine selection by well experienced & qualified engineers
- Guidance for proper selection of the tooling based on customer's application by well experienced & qualified engineers

**Some of Our Renowned Customers**



**Other Products**



The data / information in the catalogue are indicative. In consideration of our always improving technology, characteristics are given merely information basis and can be modified without prior notice.

An ISO 9001:2000 Certified Company



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