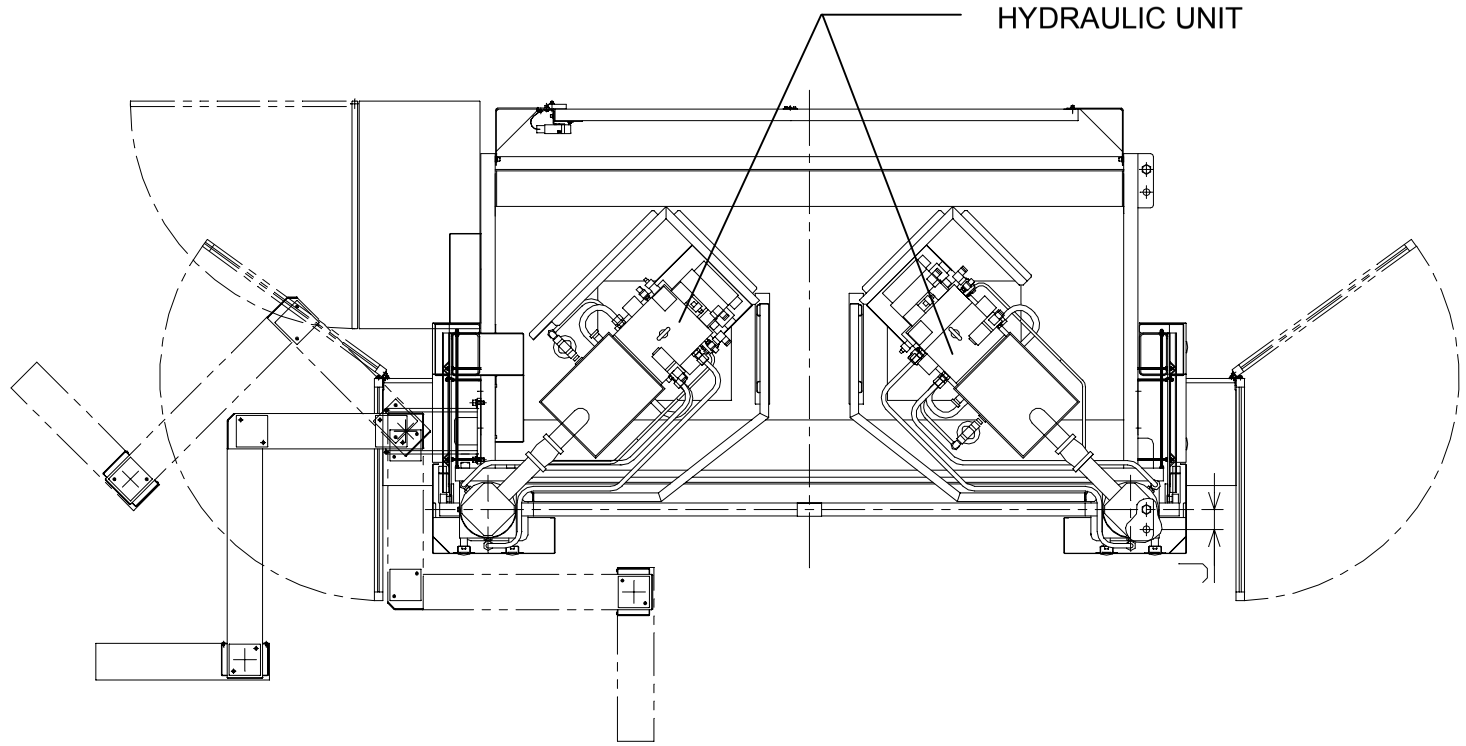
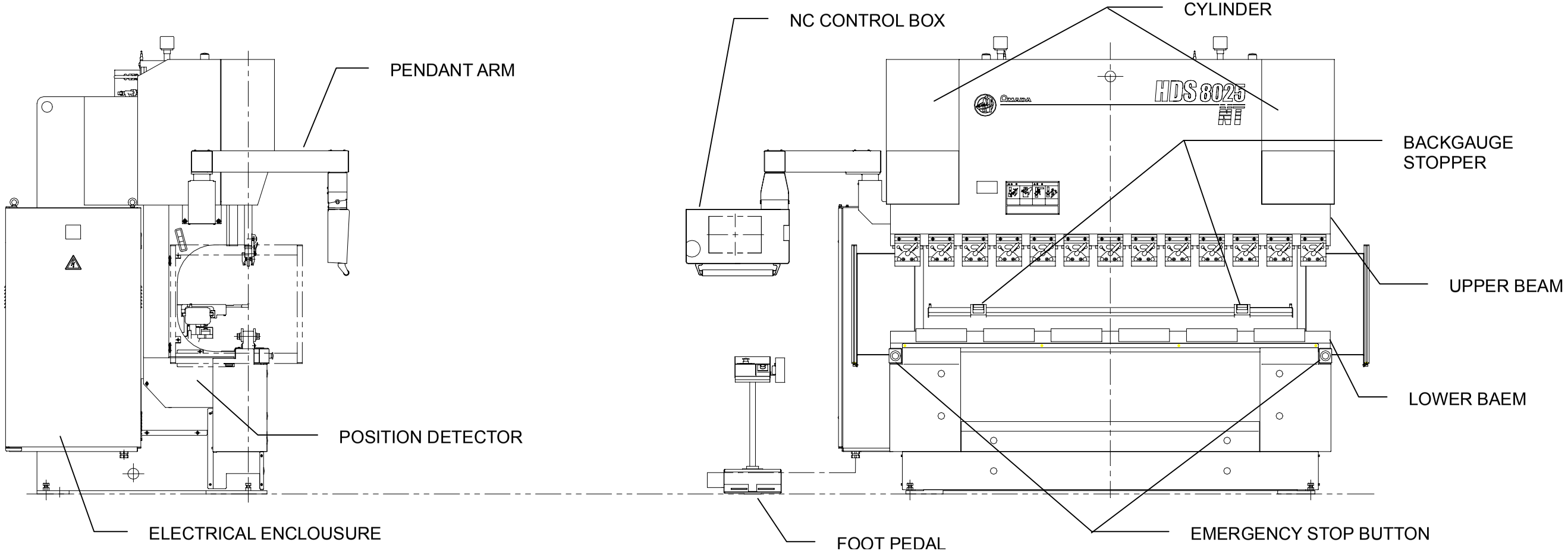
HDS-NT Press Brakes

Machine Description

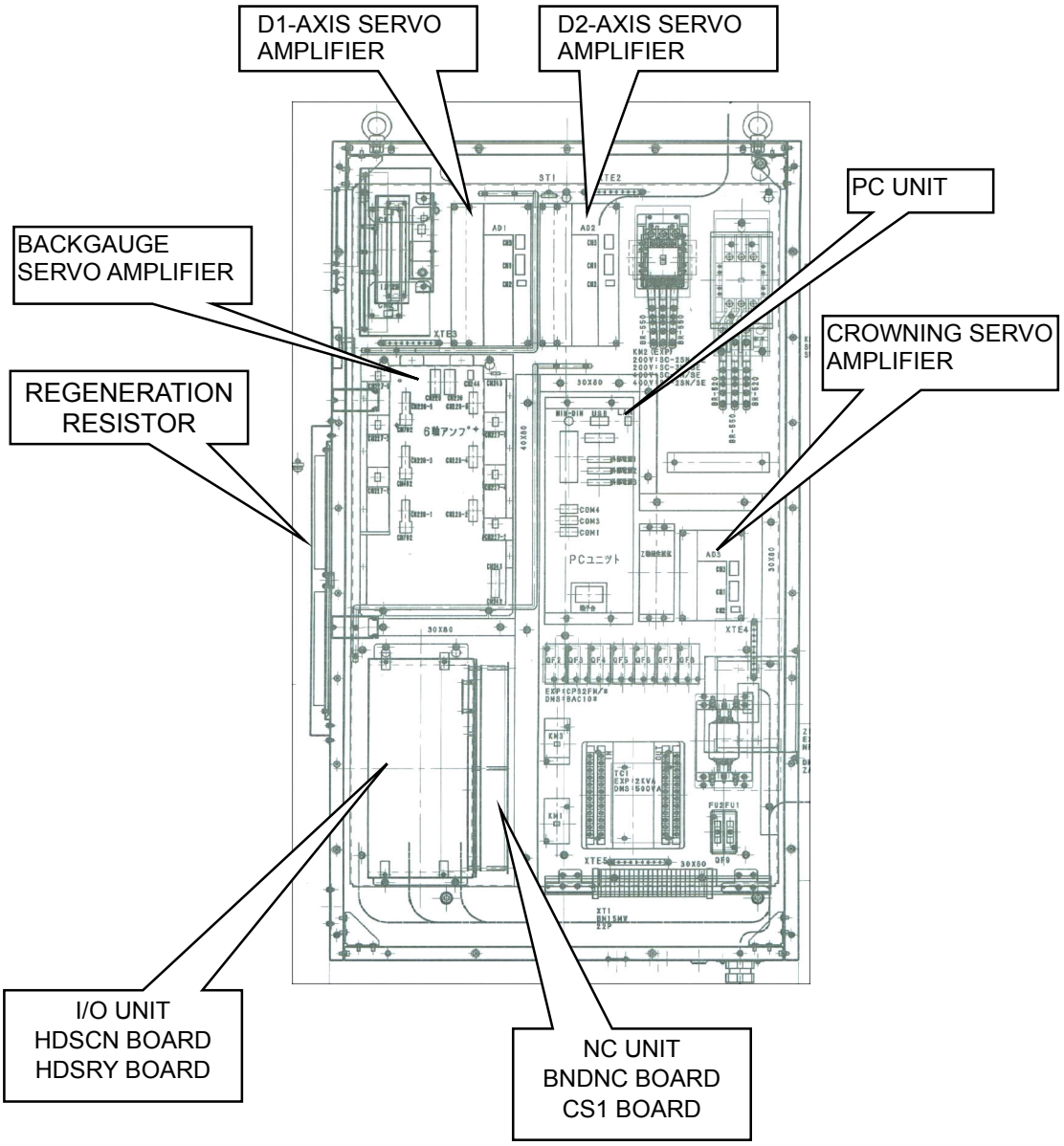
GENERAL VIEW OF MACHINE





ELECTRICAL ENCLOSURE

Inside view of electrical enclosure

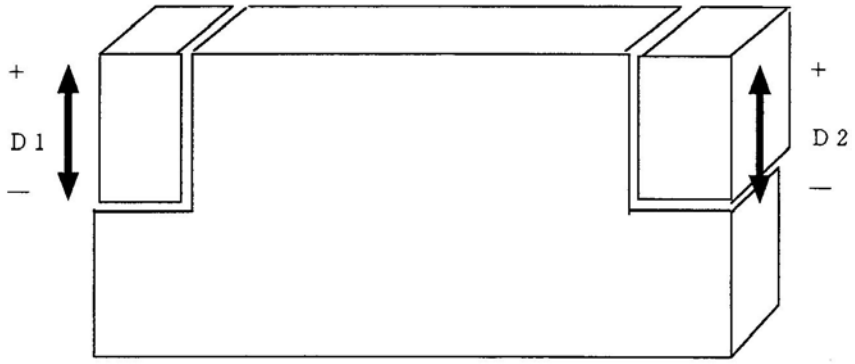


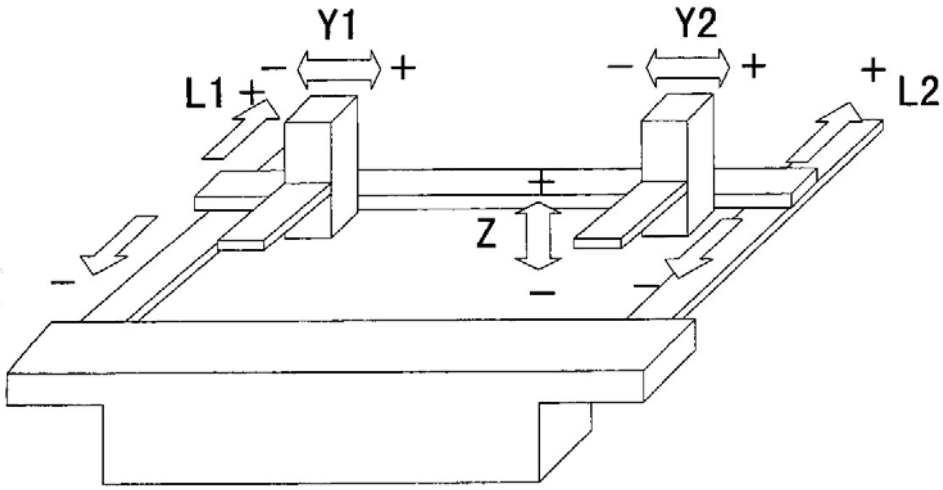
FUNCTIONS

This machine is a press brake whose upper beam is hydraulically lowered. The UP and DOWN foot pedals are pressed to move up and down the upper beam. The punches are mounted in the punch holders attached to the upper beam, and the dies and die holders are mounted on the lower beam. The worksheet is laid over the dies, supported by hand, and bent by lowering the upper beam onto the dies. The bend angle of the worksheet depends on the clearance between the dies and punches. The upper beam is moved up and down by the main cylinders installed on the right and left sides. The auxiliary cylinders are installed at the center of the lower beam to prevent a long worksheet from being bent with a greater angle toward the center (or to keep the clearance between the upper and lower beams uniform in the longitudinal direction). The main cylinders can be controlled independently to tilt the upper beam. This tilting function allows the difference in the bend angle between the right and left sides of the worksheet to be compensated for and the worksheet to be offset bent (or bent off the center of the machine). The worksheet can also be pushed against the stoppers of the backgauge to determine its bend position. The machine can be operated from the NC control box.

Coordinate system of axes

The machine is controlled by the D1, D2, L1, L2, Y1, Y2 and Z axes.





D1 axis: Axis along which the left main cylinder of the upper beam moves up and down

D2 axis: Axis along which the right main cylinder of the upper beam moves up and down

L1 axis: Axis along which the backgauge moves back and forth on the left ball screw

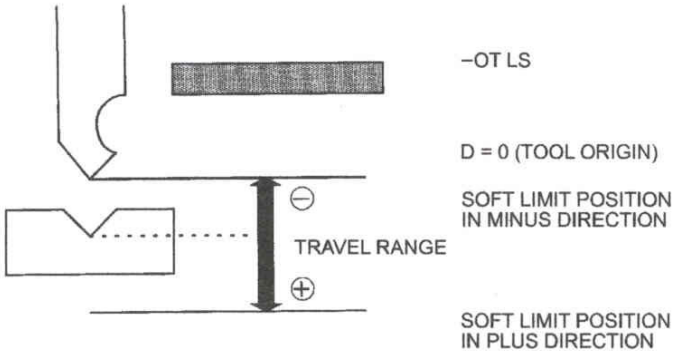
L2 axis: Axis along which the backgauge moves back and forth on the right ball screw

Y1 axis: Axis along which the left backgauge moves left and right

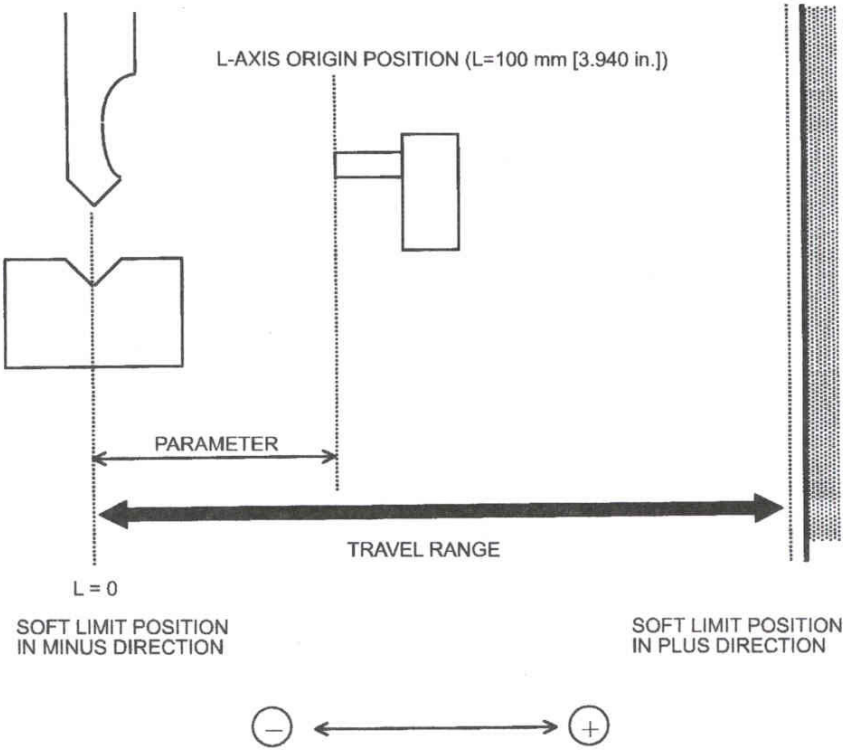
Y2 axis: Axis along which the right backgauge moves left and right

Z axis: Axis along which the backgauge moves up and down

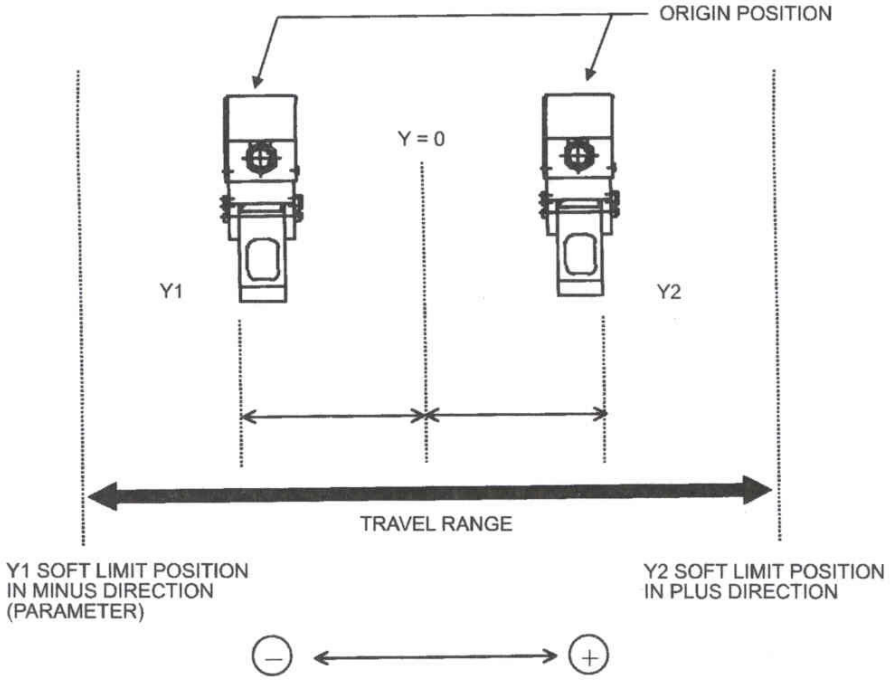
D-axis (D1, D2)



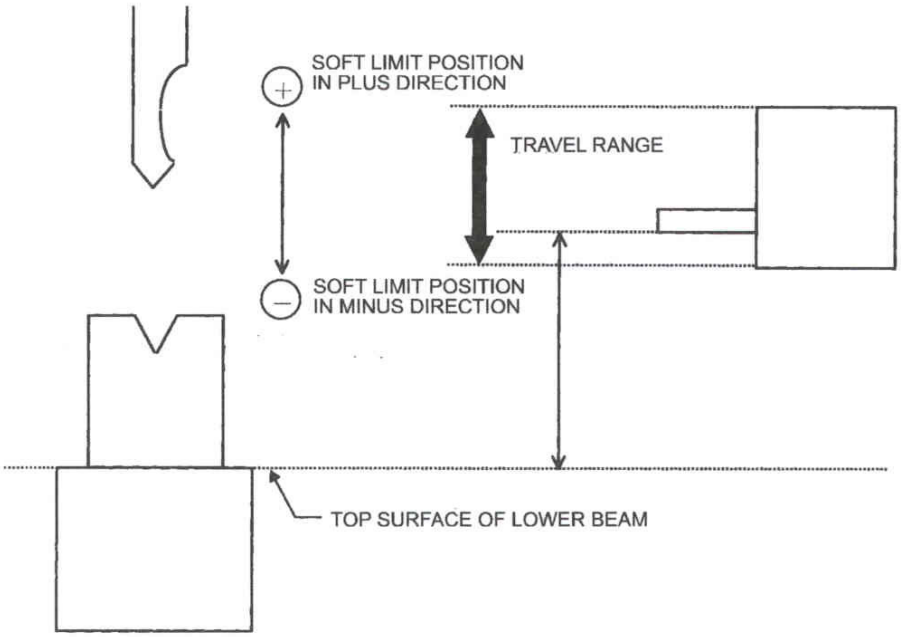
L-axis (L1, L2)



Y-axis (Y1, Y2)



Z-axis



SPECIFICATIONS

Machine

Model		HDS8025	HDS1030	HDS1303
Maximum bend length	mm {in.}	2600 {102.36}	3110 {102.36}	3220 {126.77}
Tonnage capacity	metric tons {US tons}	80 {88}	100 {110}	130 {143}
Stroke Length	mm {in.}	200 {7.87}		
Approach speed of upper beam	mm/sec {in./sec}	200 {7.87}		
Bending speed of upper beam	mm/sec {in./sec}	20 {0.79}		
Return speed of upper beam	mm/sec {in./sec}	200 {7.87}		
Number of main cylinders (Number of auxiliary cylinders)		2		
Hydraulic pump motor output	kW {HP}	3{4.0}×2 1.3{1.7}	4.4{5.9}×2 1.3{1.7}	4.4{5.9}×2 2.0{2.7}
Hydraulic unit tank capacity	liters {US gal}	36 {9.5}	57.5{15.2}	67.5{17.8}
Machine weight	metric tons {US tons}	6.7 {7.4}	8.7{9.6}	12{13.2}

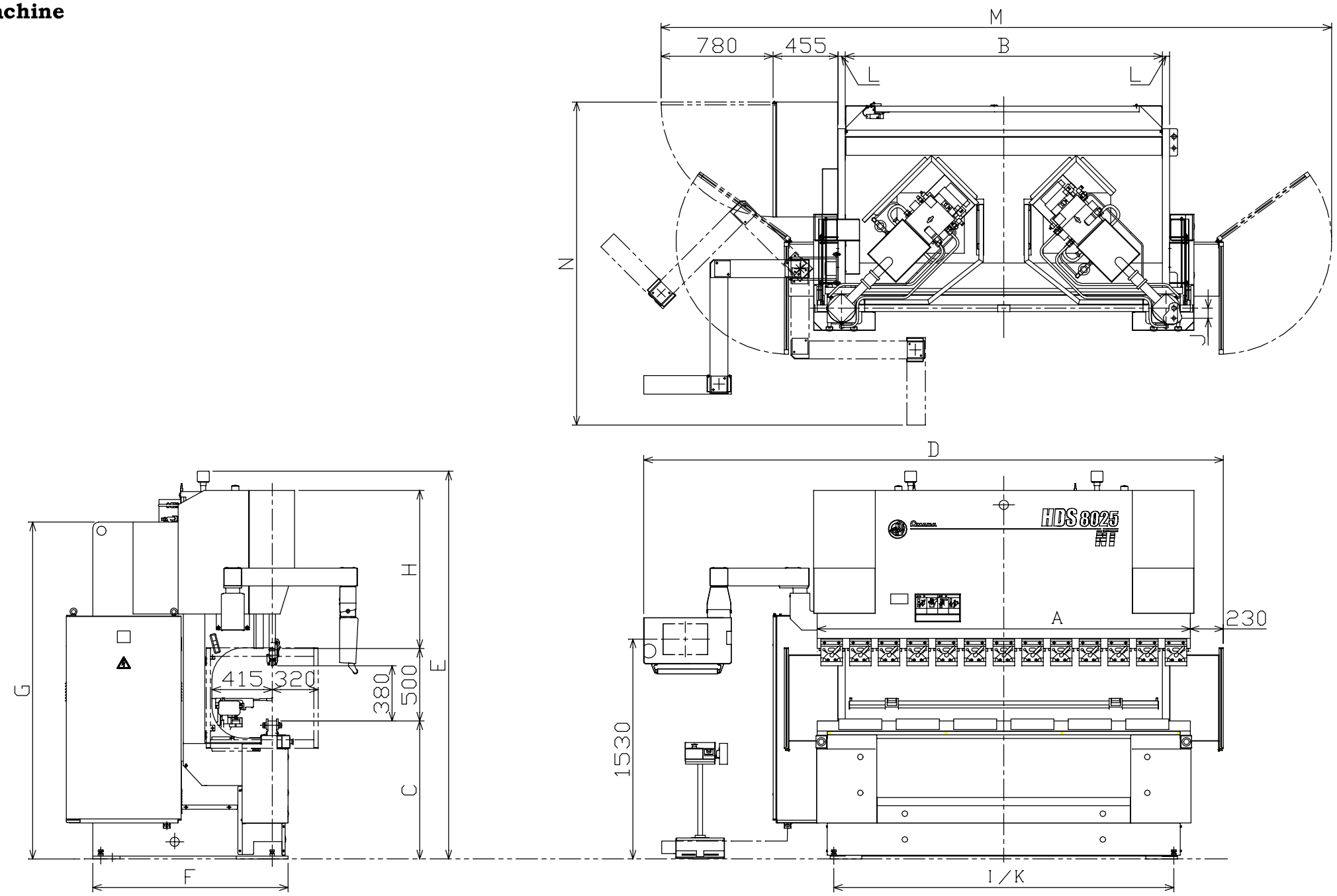
Numerical controls

Position command method		Incremental
Number of control axes		Simultaneous 8-axis automatic operation (D1, D2, L1, L2, Y1, Y2, Z1, Z2)
Least input increment	D-axis	0.001 mm {0.004 in.}
	L-axis	0.01 mm {0.004 in.}
Storage tools		Stored as AMADA standard tools
Display method		14.1” color LCD
Axis speeds	D-axis	1 to 20 mm/sec {0.039 to 0.788 in./sec}
	L-axis	30 m/min {98.4 ft/min}
	Y-axis	60 m/min {196.8 ft/min}
	Z-axis	10 m/min {32.8 ft/min}
Movable range	D-axis	0 to 200 mm {0 to 7.874 in.}
	L-axis	0 to 700 mm {0 to 27.559 in.}, –OT, +OT soft LS
Power		200/220 V
Environment	Temperature	0 to 40°C {32 to 104°F} when operating
	Humidity	75% (relative humidity), non-condensing

LIST OF STANDARD NC FUNCTIONS

- Offset bending
- Automatic calculation
- Angle compensation
- Playback function
- Pullback function
- All set input
- Idle timer
- Slowdown timer
- Multiple upper limits (stepless)
- Backgauge operation selection (automatic)
- Bend deduction compensation value table
- Angle compensation value table
- Quantity setup
- Stroke counter
- Clock function
- Integrating timer
- Tool allowable pressure check function
- Optional input
- Bend deduction compensation function

Dimensions of machine



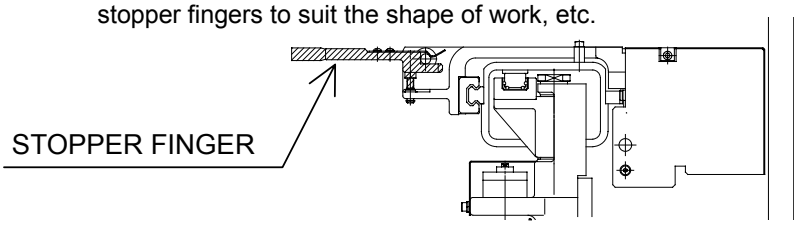
UNIT:mm{inch}

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N
8025	2600 {102.36}	2210 {87.01}	960 {37.8}	4050 {159.45}	2700 {106.3}	1360 {53.54}	2345 {92.32}	1100 {43.31}	2370 {93.31}	70 {2.76}	2370 {93.31}	50 {1.97}	4675 {184.06}	2250 {88.58}
1030	3110 {122.44}	2700 {106.3}	960 {37.8}	4550 {179.13}	2800 {110.24}	1360 {53.54}	2345 {92.32}	1250 {49.21}	2900 {141.17}	70 {2.76}	2900 {114.17}	60 {2.36}	5185 {204.13}	2250 {88.58}
1303	3220 {126.77}	2700 {106.30}	960 {37.80}	4655 {183.27}	2970 {116.93}	1505 {59.25}	2515 {99.02}	1450 {57.09}	2930 {115.35}	80 {3.15}	2930 {115.35}	70 {2.76}	5250 {206.69}	2250 {88.58}

BACKGAUGE

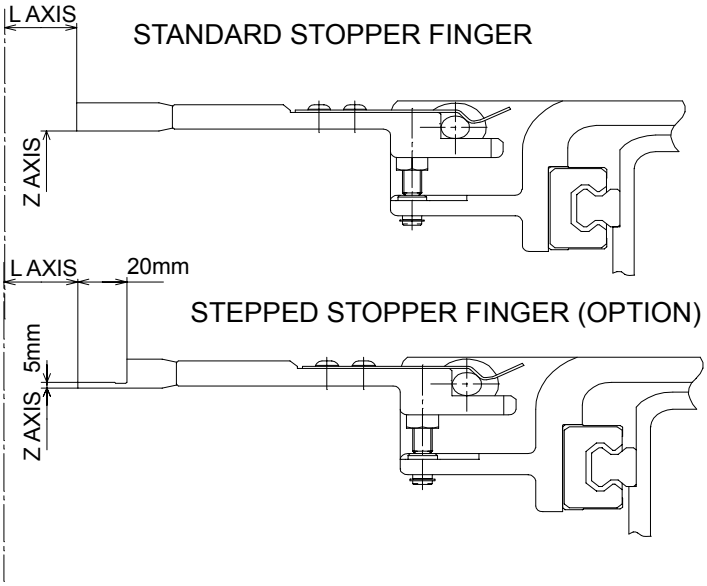
One-touch stopper fingers

The stopper fingers can be changed by one-touch. Change the stopper fingers to suit the shape of work, etc.



For changing the stopper fingers, refer to “Installing stopper fingers” in Part II, Installation.

The end positions and the NC displays of the standard stopper fingers and stepped stopper fingers are as shown below.



NOTICE

- When the backgauge is to be used close to the punches, take care so that the stopper fingers do not interfere with the punches that move as the worksheet is bent.

Worksheet overhang

The backgauge can be used as a sheet support.

Load capacity: 20 kg.

Gently place the worksheet on the backgauge so that no shock is applied to the backgauge.

NOTICE

- When the weight of the worksheet exceeds its load capacity, the backgauge may drop down. In such a case, the worksheet may spring upward or slip downward as shown below. Be sure that the worksheet weight does not exceed the backgauge load capacity.