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**AAA** 株式会社 相澤鐵工所  
AIZAWA TEKKOSHO LTD.

**ISO9001** Certificate(#JQA-QM5477)



AIZAWA is proud to announce our new state-of-the-art, PC based CNC press brake. Features include high precision, multi-axis configurations, automatic crowning, and user-friendly programming interface.

## APL-Series CNC Precision Hydraulic Bending System



### **Network ready MS Windows-NT™ based PC-CNC and easy to use LCD touch screen:**

Color LCD screen makes operation and programming fast and easy. Up to 3400 bends can be stored in the controller memory.

Pre-run simulation detects potential tool collisions. Commonly used tool and material combinations can be registered to create a compensation database. As the database develops through use of the machine, an automatic compensation function can be used to generate more accurate "first-off" parts.

Production data such as part cycle time, total production time, number of parts, and setup time are automatically recorded for each job.



### **± 0.0002 inch (5/1000 mm) ram repeatability:**

Ram guide and frame construction assure high rigidity. Precision linear scales for ram positioning are supported by independently mounted brackets, thus isolating temperature rise effect of hydraulic oil. The combination of a full closed loop NC positioning control and an ultra high-fidelity hydraulic system incorporating four ports direct servo valves and adaptive control system ensures ram repeatability as accurate as  $\pm 0.0002$  inch (5/1000 mm).

### **± 0.0004 inch (1/100 mm) off-center load:**

The machine can withstand off-center loads of up to 50% of maximum bending capacity. This allows accurate multi-stage bending by mounting several kinds of dies in one setting.



### **±0.2 inch (5 mm) ram tilt :**

Ram can tilt max. ±0.2 inch (5 mm) with 0.00004 inch (1/1000 mm) unit. This feature allows both for taper bending and easy adjustment of angle differences.

### **Wide selection of machine with no pit requirement:**

Except two models, 275 US tons x 161 inches (250 tons x 4100 mm) and 330 US tons x 161 inches (300 tons x 4100 mm), no pit is required, making layout change easy. Wide selection of machines include 61, 88, 121, 143, 176, 220, 275 and 330 US tons and length of 51, 78, 98, 122 and 161 inches. Sturdy construction allows for the largest ram stroke, open height, frame gap and inside distance of frame available for the machines in this class.

### **Angle control by in-process thickness measurement:**

Difference in plate thickness is automatically measured by the contact of punch to material. Depth value is calculated by CNC according to the thickness fluctuation individual of sheets compared with the thickness of the first material, thus maintain uniform bending angle. Material thickness must be larger than 0.06 inches (1.6 mm) and standard V width must be 6 times of thickness. Thickness fluctuation is allowable from 1% to 10%.

### **An unique automatic programmable crowning device:**

Crowning device is provided in ram. By inputs of thickness, material, length and V width, CNC calculates compensation figure. Compensation operation is manual by handle for 3 axis machine and automatic by servo motor for 4 ~7 axis machines. This feature is useful in solving center flexure as well as mitigating camber of product. A sectional micro-adjustment mechanism allows for compensation of waviness in work-pieces and wearing of dies.



## Control axes selectable from 3, 4, 5, 6 and 7:

You can select the required combination of control axes from 7 systems.

Type of system	APLIC 3300 5300	APLIC 3400 5400	APLIC 3501 5501	APLIC 3502 5502	APLIC 3600 5600	APLIC 3701 5701	APLIC 3702 5702
<b>Total Axes</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>7</b>
Ram Stroke	2	2	2	2	2	2	2
BG Travel	1	1	2	1	1	2	1
Crowning	Manual	1	1	1	1	1	1
BG Slide					2	2	2
BG Lifting				1			1

Note: APLIC-5000 series is of the network specifications.

## Specifications:

Model	Tonnage		Length	
	US ton	Metric ton	Inches	mm
APL- 5513	61	55	51.1	1300
APL- 5520	61	55	78.7	2000
APL- 8020	88	80	78.7	2000
APL- 8025	88	80	98.4	2500
APL-11025	121	110	98.4	2500
APL-11031	121	110	122.0	3100
APL-11041	121	110	161.4	4100
APL-13025	143	130	98.4	2500
APL-13031	143	130	122.0	3100
APL-13041	143	130	161.4	4100
APL-16031	176	160	122.0	3100
APL-16041	176	160	161.4	4100
APL-20031	220	200	122.0	3100
APL-20041	220	200	161.4	4100
APL-25031	275	250	122.0	3100
APL-25041	275	250	161.4	4100
APL-30031	330	300	122.0	3100
APL-30041	330	300	161.4	4100