

**AIDA PMX-L2-300(1)-215-120 TWO POINT STRAIGHT SIDE PRESS
COMPLETE WITH COIL LINE AND STACKER**



PRESS LOCATION:	UNITED KINGDOM
YEAR OF MANUFACTURE:	2001
ANCILLARY EQUIPMENT:	COIL LINE, STACKER, SCRAP CONVEYOR.
GUARDING:	FULL LINE GUARDING AND PRESS SOUND ENCLOSURE
CURRENT CONDITION:	FULLY OPERATIONAL AND CAN BE VIEWED WORKING
AVAILABILITY:	MARCH 2024
PRICE:	UPON APPLICATION

Press Specification

Capacity	:	300t (3000 KN)
Rated Tonnage point above BDC	:	6.5 mm
Stroke of Slide	:	100mm
Continuous strokes per minute	:	50~150 spm
Micro-inching speed (approximately)	:	30 spm
Shut height bolster to slide (SDAU)	:	400mm
Adjustment of slide	:	100 mm
Slide area L-R x F-B	:	2150 x 1200 mm
Bolster area L-R x F-B	:	2150 x 1200 mm
Side opening (F-B x H)	:	1020 x 670 mm
Floor to top of bolster	:	850 mm
Thickness of bolster	:	200 mm
Counterbalance capacity (maximum upper die weight)	:	2000 kgf ²
Main motor	:	VS 37Kw
Power supply	:	380~415V, 50Hz
Control	:	110 V
Air pressure (required)	:	5 kgf/cm ²
Overall height above floor, approx. (with press in pit)	:	4,400 mm
Ambient temperature	:	5 - 40° C
Material of frame	:	Welded steel
Weight of base press (approx.)	:	56 tonnes

1.1 **STANDARD PRESS ATTACHMENTS AND ACCESSORIES**

- 1) Pre-stressed tie rod assembled frame construction
- 2) Link motion
- 3) Dynamic balancing
- 4) Micro-inching
- 5) Digital and clock type slide stroke position indicator
- 6) Flywheel brake
- 7) Reversing starting device
- 8) Wet-type clutch and brake
- 9) Patented Hydraulic Overload Protection (H.O.L.P.)
- 10) Unsticking device for releasing slide
- 11) Extra long gib ways
- 12) Digital die height indicator
- 13) Air counterbalances
- 14) Recirculating oil lubrication system
- 15) Flow indicators for lubrication monitoring
- 16) Pneumatic control system and panel
- 17) Timing controller (digital rotary cam)
- 18) Two safety die blocks
- 19) Two misfeed receptacles
- 20) Three 110V, 3p, 5A receptacle
- 21) Main operating panel
- 22) Portable operating stand with 3 m cable
- 23) One six digit reset production counter
- 24) One six digit preset counter
- 25) One air ejector outlet with a 3/8 inch quick disconnect coupling
- 26) One free air outlet with a 3/8 inch quick disconnect coupling
- 27) Adherence to European C.E Standards

1.2 **FEATURES - PMX-300**

1.2.1 **FRAME**

Four piece construction: Crown, bed, slide and columns are designed to provide good vibration and noise abating characteristics. Assembled structures are pre-loaded by cold shrinking tie rods hydraulically, resulting in a frame having exceptional rigidity and resistance to torsional deflections.

Bed opening: Is furnished for scrap removal or option to retrofit die cushions mounted to the underside of the bolster.

Bolster plate: Is machined with T-slot pattern. Available option for holes and T-slots machined to customers requirements. Also supplied with detachable bolster inserts.

Column side openings: Are provided to accept progression die coil feed line.

1.2.2 **DRIVE**

Two forged eccentric shafts made of high carbon steel, precision machined and normalised for maximum shock resistance. Crankshafts are mounted left to right; mounted in bronze bearings and driven from the centre of the press to equalise torsional deflections to each suspension point

Main gear and pinion are hardened and ground for minimum backlash and run in an oil bath assuring dependable and quiet operation

Flywheel is running on anti-friction bearings and is designed for high work-energy output.

Digital stroke position indicator located in operator's panel to assist in die set-up.

Micro-inching is provided for slow slide speed while die setting.

Flywheel brake is pneumatically operated and interlocked with the main motor control.

Barrier guards on the front and rear of the press, interlocked with press run circuit. When the acoustic enclosure is specified, these rising screen guards are an integral part of the enclosure.

1.2.3 **CLUTCH AND BRAKE**

Performance proven, air operated, wet-type lining, separate clutch and brake, both running in oil.

- a) There is no excessive heat or wear on the linings because of the oil film between the friction surfaces during engagement.
- b) The clutch and brake unit is almost maintenance free, and no adjustments are required for the life of the unit.
- c) The clutch is air operated, and the brake is spring set. The units are operated by a dual solenoid air valve and are interlocked pneumatically to prevent an operational overlap.

1.2.4 **SLIDE**

Patented Hydraulic Overload Protector (HOLP): built into the slide, factory set for a maximum of 110% of the rated press capacity and electronically interlocked for a response time of 1/100th of a second to "0" pressure. Freeing of a stuck die can be accomplished easily via a pushbutton on the control panel by bleeding pressurized oil from hydraulic cylinders located under each connection point. Displaced oil is retained within the hydraulic system when an overload occurs. An overload sensed by either suspension point will unload both units. The system will automatically recharge itself within 1 minute after the slide has been inched to top dead centre. Pattern of slide face to customer's requirements.

Extra long gib ways: eight point fully adjustable gibbing with replaceable bronze wearstrips, and feature fine adjustment with positive locking.

Air counterbalance cylinders are mounted inside the press frame to reduce the overall height. Counterbalance capacity is adjustable by air regulator and a booster pump.

Motorised slide adjustment is standard. A spring-set air release brake, mounted to the motor, assures no loss of adjustment position during production runs.

Digital die height readout is electronically interlocked to stop at top and bottom of adjustment range.

1.2.5 **LUBRICATION**

Recirculating, forced oil lubrication to all lube points on the press with an appropriate fault detection system for monitoring oil flow. The flow checker is electrically interlocked to the press control. The press will automatically stop upon sensing a restricted lubrication flow and the corresponding fault will appear on the LCD readout operator's screen.

A tray is provided around the bed perimeter for the collection of die lubricant.

1.2.6 **PNEUMATICS**

The pneumatic unit has a stop valve, air filter and line lubricator.

All necessary regulators, valves, and pressure switches for the clutch and brake, counterbalancer and pressure gauges are furnished.

All necessary piping is included.

1.2.7 **ELECTRICAL**

Combination clutch and motor control is mounted in a free standing cabinet with disconnect switch and reversing main motor starter, including a 110V secondary control circuit transformer and clutch control delays.

Master operator's panel in an EMC enclosure mounted in the front right column.

Pedestal mounted dual run buttons and emergency stop button with 3 m cable.

Emergency stop buttons are mounted at all four corners of the press and the operator's stand.

Digital type programmable timing switch with seven spare poles for automation.

Motion detector monitors the rotation of the digital timing switch encoder and activates the stop circuit if no rotation is sensed during the press cycle.

Brake monitor prevents a subsequent single stroke operation if the slide "TOP STOP" position is overrun by a preset distance. A test selector switch and reset are provided.

Electro-pneumatic lockout interlocked with the clutch control is furnished on the clutch and brake parallel flow dual solenoid air valve.

Two (2) safety die blocks with receptacles are provided and interlocked with the press runcircuit so that the press cannot be operated nor the main motor started unless the die block safety plugs are in place, thereby preventing accidental operation of the press during tool maintenance.

Two (2) misfeed receptacles with shorting plugs are interlocked with the clutch control.

Three Off 110V, 5A receptacle and plug.

Operation selection: the key selector switch on the operation panel is provided with 5 Positions: "OFF", "MICRO INCH", "INCH", "SINGLE", AND "CONTINUOUS".

Complete with CNC press control system, interfaces with the feed equipment, the load monitoring and the stacking system. Press tool area fitted with die lights

1.2.8 HYDRAULIC CLAMPING, DIE LIFTERS AND PRE-ROLLERS

One – set of hydraulic clamping, of the cylindrical clamp type or the tee bar type. To be fitted in the slide face plate and the bolster at positions to suit your tooling arrangement.

One – set of hydraulic die lifters fitted in the bolster, positions to be arranged to suit your tooling and the drop-out holes in the bolster.

One – set of folding pre-loading arms, front only to aid tool loading.

1.2.9 ANTI VIBRATION MOUNTS

One – set of 4 HS type anti-vibration mounts, complete with sole plates and anchor bolts. Press is mounted in shallow pit

1.2.10 TOOL PROTECTION AND SLUG DETECTION

- Includes signature analysis and trend monitoring
- Monitor tonnage and display actual tonnage used on each stroke, left and right.
- Produce full SPC graphs on tool runs from data gathered.
- Save all data on tool runs.
- All data to be able to be down loaded on a personal computer
- Monitor and detect misfeed, slug build up, scrap on tools and record this information.
- 100 tool information record.
- User friendly.

1.2.11 CONDITION MONITORING

1.2.11.1 Includes the following standard monitoring features:

Monitoring of the pneumatic systems
Monitoring of the press lubrication system
Monitoring of the press control operations and sequence
Monitoring of the hydraulic overload (HOLP) unit on the press
Operator diagnostics
Production information (configured to the customer's specification)

2 COIL FEED EQUIPMENT

2.1 COILHOLDER

2.1.1 One – BHP CH800.5 single sided decoiler complete with:

- hydraulic mandrel expansion with pack at rear of machine.
- coil retaining arms for maximum coil outside diameter of 1500 mm and bore of 508 mm.
- threading drive with pneumatically applied brake on mandrel.
- pneumatically operated snubber arm and non-motorised wheel.
- traverse base with 150 mm of total travel.
- maximum weight of coil of 5,000 kgs.
- coils of small width to be held upright by detachable bars in the coil car.
- locally mounted control console for operation of coil holder and coil car.

Also complete with:

- BHP type CLC-5000 hydraulically operated coil loading car, with traverse rails and pendant for 'up/down' and 'in/out' functions.

2.2 MOTORISED STRAIGHTENER

One – BHP type HD 800 DL motorised straightener, complete with:

- ingoing plate self-centring guides with digital read out.
- capacity – 800 mm width of material with thickness of 0.5 mm to 2.00 mm.
- hydraulically operated peeler table.
- pneumatically operated ingoing and outgoing pinch rolls.

- 3 over 4 levelling rolls with cross shaft and level gear adjustment and digital position indicator
- back-up rolls, to minimise deflection.
- AC inverter drive, to give up to 60 m/min speed range.
- chromed and polished rolls, levelling rolls lift clear for cleaning.
- loop pit control – 5 beam photo-cell arrangement.
- loop carry – over table (for manual operation) with pendant for threading up and floor mounted loop quadrants.

2.3 One – common base-frame for the coil car, coil holder and the straightener/leveller.

2.4 **SERVO-FEED (SINGLE UNIT)**

2.4.1 One – BHP type SP-127-800 servo roll feed unit, complete with:

- 127 mm diameter feed rolls with back up rolls and spherical bearings.
- chromed and polished rolls.
- Indramat 'A' series servo drive and controls to allow for multi-pitching and firing of tool gags (4 outputs available – additional outputs are an optional extra)
- pneumatic pilot release (for up to 60 spm maximum)
- ingoing plate self-centring guides with digital read out.
- ingoing independently adjustable guides to allow for off-centre feeding.
- outgoing independently adjustable guides to allow for off centre feeding (and for passing material through the acoustic enclosure)
- complete with mounting bracket for attachment to the pres frame.

2.4.2 One – set of pneumatically operated anti-fall-back rolls on adjustable bracket.

2.4.3 One – set of additional gags in the roll feed control (standard feed has 4 gags; up to 8 additional gags can be provided).

2.4.4 One – hydraulic pilot release for the servo feed – to operate up to 120 spm max.

2.4.5 One – line engineering charge to interface the total line with the press, including testing at Aida Bliss and commissioning on site.

2.5 **TWIN STACKING SYSTEM**

2.5.1 A conveyor will be mounted within and adjacent to the tool to remove left and right hand components from the tool. The conveyors will be mounted parallel to each other with a gap of approx. 250 mm. Each component will be fed onto pneumatic pins with adjustable sideplates at pass height. When 20 components have been stored, a secondary support system at the ends of the blank, take over from the pins to lower the 'mini-stack' to the pallet. Whilst this takes place, the pins repeat the function for the next component. The pallet rests on a servo-positioned car which locates the pallet beneath the secondary system to place the first 'mini-stack'. The system will place 'mini-stacks' to complete a first layer over the full area of the pallet.

2.5.2 The process repeats automatically until the pallet is full (by count or height). Because the pallet position is under full servo control, the complete stack can be built with zero gap between components.

Operation of a continuous stacking system, for the twin stacking units with the option of two additional servo cars, the stacking system can run in non stop mode. A full pallet will 'park' to be unloaded from the servo car. An empty pallet is placed on the car ready to repeat the sequence.

2.6 **BLANK STACKING SYSTEM**

2.6.1 One blank stacking system at the exit end of the press line, incorporating:

- one overhung blank conveyor to reach in over the press bed for the minimum blank length of 150 mm.
- one stacker frame with individually adjusted side plates. To allow for off-centre stacking and adjustable end stop. Fitted with simple air blast system also fitted with retracting endstop via a cylinder.
- one hydraulically operated scissor lift with auto height adjustment and powered roll top to accept side loading of 800 mm x 1200 mm x 127 mm pallet. Top to have a capacity for two pallets. Powered roll top to have a 'soft start' to minimise risk of stacks 'toppling'.
- one traverse on scissor lift, for positioning of conveyor end in the press powered by positive chain drive system.
- one powered roll unload station, attached to the traversing scissor lift, with capacity for two loaded pallets. Hinged safety stop included.

3 ACOUSTIC ENCLOSURE

- 3.1 One – acoustic enclosure, close fitting with tunnels at each end to allow for feeding of material in, and components out (on the end conveyor). Front and rear fitted with acoustic rising screen guards, interlocked as the personal protection device and pneumatically operated with safe edge sensors. Each front/rear guard to allow for moveable lower panels, for use when loading parts from the tool in to the stacking system. Acoustic panels to be 100 mm thick (with 50 mm in the roof section).

Noise attenuation depends on the tool noise, but it is expected that 20 – 25 d B(A) reduction in Leq sound pressure level will be achieved. Front and rear doors to include double glazed windows, access doors to be provided where required for tool setting and maintenance.

4 SCRAP CONVEYOR

- 4.1 One – scrap conveyor system comprising:
- one under-bed magnetic conveyor running under the press, to transport scrap to an inclined 'swan-neck' conveyor positioned at the end of the press, between the press and the roll feed unit, to lift the scrap 1300 mm and deposit in to a Bisley scrap bin. Includes interface with the press control.

5 LINE GUARDING

- 5.1 One – set of mechanical fence guarding around the complete line, to the relevant CEN standards to incorporate interlocked access doors where required and to interface with the acoustic enclosure and the stacking systems.