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MORGAN RUSHWORTH PBXT CNC 3100.190 HYDRAULIC O-FRAME PRESS BRAKE

The Morgan Rushworth PBXT O-Frame press brakes are built around a fully enclosed O-frame structure that behaves as a single, monolithic unit, significantly reducing frame deflection under load and maintaining bending accuracy even at high tonnages and across long working lengths. At the centre of the design sits a patented hydraulic cylinder system positioned precisely on the bending axis, applying force vertically and evenly across the workpiece. Because the cylinders act directly on the bending axis rather than through the side frames, torsional stress is eliminated and force transfer stays balanced, producing uniform bend angles from end to end and consistent part quality along the full length of the component. This combination of a rigid enclosed frame and centrally applied force delivers high repeatability and process reliability in continuous, heavy-duty production. Machines are fitted with the ESA S875 advanced CNC control and the stable frame architecture provides an ideal foundation for advanced automation, supporting multi-axis servo back gauges, automatic crowning, adaptive bending algorithms and full Industry 4.0 connectivity for real-time monitoring, predictive maintenance and integration into smart factory systems.

The enclosed O-frame geometry removes the restrictions imposed by leg width and open-sided frame designs, giving greater clearance and accessibility for deeper, more complex bends performed further from the frame walls. This allows the forming of larger and more intricate components, a particular advantage in sectors such as shipbuilding, structural steel fabrication, energy and heavy machinery manufacturing. The closed structure also improves resistance to cyclic fatigue and operational stress, extending machine life and reducing maintenance requirements for sustained performance in high-volume production. The range covers models from 110 tonnes to 320 tonnes with bending lengths from 3100mm to 4100mm, supplied with euro tooling, and an optional extended frame increases the daylight opening to support deeper forming applications and the use of larger tooling. Special models can be built with larger widths and higher tonnages, and a comprehensive range of options is available to tailor the machine to specific requirements.

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FEATURES

- ESA VIS-875W multi-axis CNC control with numerical and 2D graphical programming and 2D or 3D visualisation, mounted on pendant arm
- Fully synchronised CNC control of left and right upper beam cylinder position – Y1 + Y2 axis
- CNC control of back gauge depth – X axis
- CNC control of back gauge height – R axis
- CNC bottom tool crowning system - A axis
- Manual side to side movement of back gauge fingers – Z axis
- Quick release top tool clamping system
- Euro style top tool holders with intermediates
- Sectionalised goose neck top tool and multi vee bottom die
- Height adjustable control panel
- AKAS laser tooling guards for enhanced ease of use
- Strong rigid welded mono block frame able to withstand deflection under maximum load
- High precision linear scales for measurement of the stroke depth which are mounted on the side frames rather than the top beam to prevent any inaccuracy through distortion as the beam comes under load
- Hydraulic ram travel guided in low friction slide ways
- Large open height and generous ram stroke
- High approach and return speeds for production bending
- Front support arms with brush tables
- Dual foot switch console with emergency stop
- Electrically interlocked side guards
- Electrically interlocked rear access door

OPTIONS

- Optional offline ESA Bend 3D Software with Control Viewer
- Delem DA-66S 2D Graphical Touchscreen CNC Control
- Delem DA-69S 3D Graphical Touchscreen CNC Control
- Independent CNC control of side to side movement of back gauge fingers – Z1 + Z2 axis
- Independent CNC tower back gauge system – X1 + R1 + Z1, X2 + R2 + Z2
- AKAS V Motorised Laser Tool Guards
- Laser angle measurement system with live feedback to CNC control
- WILA hydraulic top and bottom tool clamping system
- Additional back gauge fingers
- Additional front support arms
- Ball bearings on front support arms
- CNC sheet follower support arms
- Wide table
- Material thickness measuring device
- Laser bending line
- Robot interface configuration
- Manual or Motorised centralised lubrication system

TECHNICAL INFORMATION

MODEL		PBXT CNC 3100.190
Bending Power	tonne	190
Bending Length (Over Tooling)	mm	3100
Bending Length (Between Frames)	mm	3100
Y Axis Approach Speed	mm/sec	150
Y Axis Bending Speed (Maximum)	mm/sec	10
Y Axis Return Speed	mm/sec	130
X Axis Travel	mm	750
X Axis Speed	mm/sec	350
R Axis Travel	mm	150
R Axis Speed	mm/sec	240
No of Back Gauge Fingers		2
No of Sheet Support Arms		2
Stroke	mm	260
Daylight	mm	460
Throat Depth	mm	n/a
Table Height	mm	885
Table Width	mm	60
Oil Capacity	litre	210
Motor Power	kW	18.5
Length	mm	4195
Width	mm	2155
Height	mm	2855
Weight	kg	10200

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OTHER IMAGES