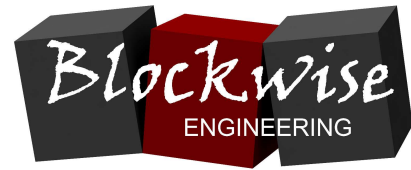


AlphaPleat™ Balloon Pleating Station



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Blockwise Engineering's AlphaPleat™ pleating stations (patent protected) provide the most accurate pleating geometry available. AlphaPleat™ stations are available as part of Blockwise's balloon wrapping machines, and are also sold as separate components for use in customer's equipment.

In the AlphaPleat™ stations, the balloon pleating dies have planar surfaces that are guided by adjacent dies. Bearing balls between adjacent guiding surfaces on the dies ensure the motion is smooth and consistent. This design has the advantage that the accuracy of the pleating cavity relies only on tolerances of the dies and bearing balls. The dies move in a very precise relationship to each other, and precisely in unison, and form a very precise central cavity, without need for a precise attachment to any common base or hub.

The dies are manufactured with an EDM process which gives extremely tight control of the final profile, typically $\pm 2.5 \mu\text{m}$ (± 0.0001 in). The bearing balls are a high precision grade with a sphericity tolerance of $0.61 \mu\text{m}$ (0.000024 in) and a diameter tolerance of $\pm 2.5 \mu\text{m}$ (± 0.0001 in).

Since the tolerance stack-up is limited to just the dies and bearing balls, and does not include any end plates or drive cams, the final pleating geometry is extremely accurate.

