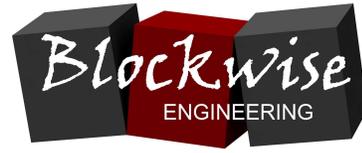


Balloon Pleating Machine VPT



Blockwise Engineering, LLC
<http://www.blockwise.com>

The **Blockwise Twin-Cam™ balloon pleating machine model VPT** is a tabletop machine used to form a catheter balloon into a pleated shape. Typically, a balloon wrapping process consists of two steps: a pleating step and a compression step.

In the **pleating step**, performed by this machine, a set of heated dies moves inward toward an air-inflated balloon to form the balloon into a number of equal “pleats” or “wings”, as shown in Figure 1.

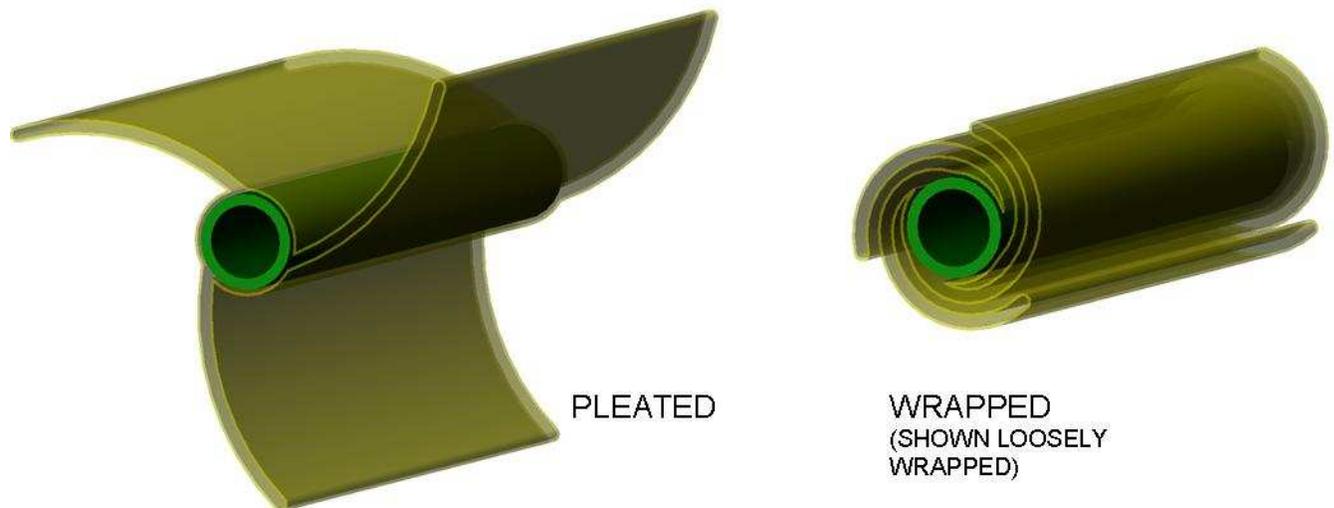


Figure 1 Pleated and Wrapped Balloons

In the **compression step**, (not performed by this machine), a set of heated dies forms an adjustable cylinder-shaped opening that radially compresses the evacuated, pleated balloon, forming it so that the pleats are tightly wrapped around the catheter shaft. After the compression step, the “wrapped” balloon is typically placed in a sheath.

The machine includes a Twin-Cam™ pleating station with stainless steel dies that form the balloon into the pleated shape. The dies are actuated by a stepper-motor actuator controlled by a PLC computer. The PLC is programmed through the operator interface screen, by entering parameters in “recipes” that specify a sequence of diameter of actuation force “steps”. The PLC also controls pressurization or evacuation of the balloon, and temperature of the pleating dies.

Pleat stations are custom-designed to cover a range of balloon geometries in the customer’s product line.



Specifications:

Die Lengths Available:	62 mm to 310 mm (in 62mm increments)
Number of Balloon Wings:	2 to 6
Inflated Balloon Diameter Range (with pleat station change outs)	2.0 mm to 30.0 mm
Pleat Die Controlled Temperature Ranges:	Room Temp to 100 °C
Pleat Actuation:	Stepper Motor with encoder and force feedback
Die Material:	Hardened, Electropolished, Certified Stainless Steel
Machine Dimensions:	61 cm deep x 61 cm high x 65 cm width (Width is longer for long length stations)
Sequence Control:	PLC control with LCD operator interface panel and storage for recipes.
Service Connections:	AC Power: 120 v or 240 v, 3A Air: 70 to 110 psi
Catheter Connection:	Standard Luer Fitting, Using Simpluer Connector

