

CALCULATION OF TOTAL FORCE FOR AIR BAG PRESS

Measure the dimensions of the bag (in most cases it is approx. the same size as the platen dimensions) and determine the surface area of the bag that is in contact with the platen (length in inches of bag times width in inches of bag).

Multiply the surface area of the bag by the air gauge reading. This is the total force in pounds over the entire platen.

Divide the total force by the surface area (in sq. inches) of the stock. This will be the pressure in pounds per square inch (PSI) being applied to the surface area of the stock.

Example: With a known gauge pressure the PSI is calculated with the following formula.

$$P = \frac{L \times W \times G}{A}$$

To calculate the gauge reading for a desired pressure (PSI), use the following formula.

$$G = \frac{P \times A}{L \times W}$$

Where: L = Length in inches of bag
W = width in inches of bag
A = Surface area of stock in square inches
G = Air gauge reading
P = Pressure in PSI over surface of stock

Note: as the platen approaches the limit of its stroke, the contact area diminishes.