



Tutorial

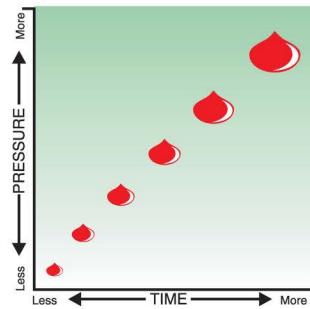
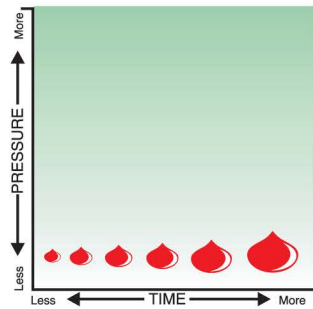
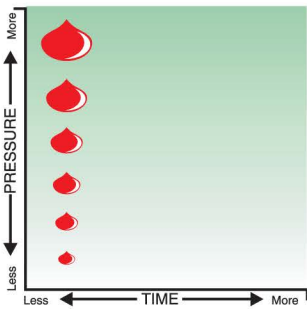
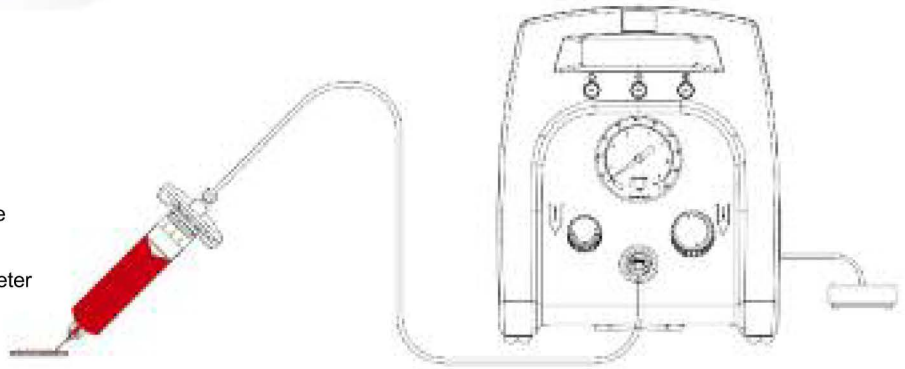
Time-Pressure Dispensing

Time pressure dispensing is the most common dispensing method used today. Its popularity stems from the need for process control and the fact that it is possible to dispense from disposable containers without the need for cleaning.

Our time-pressure dispensers deliver a measured amount of air pressure, for a measured amount of time, to a pre-filled syringe barrel. This controlled shot of air pressure forces material out of the delivery end of the barrel, through a dispensing tip, and out to the application surface.

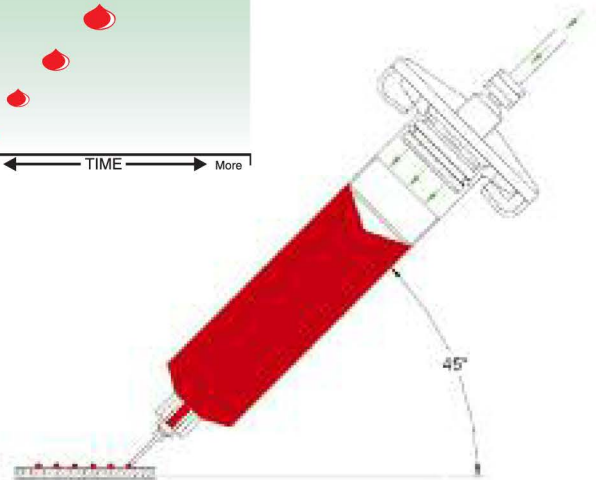
Factors Affecting Dispensing

- **PRESSURE:** Increasing fluid pressure will increase dot size and vice versa
- **TIME:** Increasing dispense time will increase dot size and vice versa
- **DISPENSING TIP SIZE:** Larger inside diameter (orifice) needle results in bigger dot size



Basic Dispensing Guidelines

- **SMALL SHOT SIZE** = small dispensing tip, low fluid pressure, short dispense time
- **LARGE SHOT SIZE** = larger dispensing tip, higher fluid pressure, longer dispense time
- **LOW VISCOSITY FLUID** = small dispensing tip, low pressure, time as required
- **HIGH VISCOSITY FLUID** = larger dispensing tip (tapered dispensing tip recommended), high pressure, time as required
- Position syringe barrel at 45° angle
- Position the dispensing tip close to the work surface then activate the dispense cycle and keep the syringe barrel in the same position until the cycle is completed
- If vacuum "suck-back" is needed, use only enough vacuum to draw back fluid into the dispense tip. Excessive vacuum could draw air into the fluid and also could draw fluid into the dispenser.



Viscosity Chart

| Material | Viscosity (Centipoise) |
|-----------------|------------------------|
| Water | 1 |
| Milk | 3 |
| Castor Oil | 1000 |
| Maple Syrup | 5000 |
| Honey | 10000 |
| Chocolate Syrup | 25000 |
| Ketchup | 50000 |
| Sour Cream | 100000 |
| Peanut Butter | 250000 |
| Shortening | 1200000 |

Shot Size Chart

| Dot Diameter | Dot Volume | Dot Size (actual) |
|-----------------|--------------|-------------------|
| 0.010" (0.25mm) | 0.0000043 cc | . |
| 0.020" (0.51mm) | 0.00003 cc | . |
| 0.030" (0.76mm) | 0.0001 cc | . |
| 0.040" (1.02mm) | 0.0003 cc | . |
| 0.050" (1.27mm) | 0.0005 cc | . |
| 0.060" (1.52mm) | 0.0009 cc | . |
| 0.070" (1.78mm) | 0.0015 cc | . |
| 0.080" (2.03mm) | 0.0022 cc | . |
| 0.090" (2.29mm) | 0.0031 cc | . |
| 0.100" (2.54mm) | 0.0043 cc | . |