Milking Action of Conventional Teatcup
Vacuum Basics

**Vacuum Level** : Difference between atmospheric pressure and milking system pressure (measured in inches of mercury).

**Milking Vacuum** : Vacuum level found in the cluster at peak milk flow of a representative group of cows.

**Nominal Vacuum** : Vacuum level in the milking system measured at the vacuum guage.

### Approx. Settings for Nominal Vacuum Level

<table>
<thead>
<tr>
<th>System</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highline (No Automation)</td>
<td>14” - 15” Hg</td>
</tr>
<tr>
<td>Weigh Jars (Center Mount)</td>
<td>13.5” - 14.5” Hg</td>
</tr>
<tr>
<td>Lowline (Direct to Line)</td>
<td>12.5” - 13.5” Hg</td>
</tr>
</tbody>
</table>
Vacuum Basics

Vacuum setting depends on:
- average milking rate of cows
- end of milking indicators
- automatic detachers
- milk meters

If milk line vacuum is set too high
(>15” Hg)
- Increased machine strip time
- Teat lesions
- Increased teat congestion

If milk line vacuum is set too low
- Milker fall-off
- Liner slippage
- Slow milking
Pulsation Systems

Main purpose is to massage teat and prevent fluid congestion and edema (swelling).

Pulsator sets teat massage in motion by alternating between air pressure or vacuum in the pulsation chamber.

Measures

Pulsation Cycle

Pulsation Rate: Number of complete pulsation cycles per minute. 45-65

Pulsator Ratio: Ratio of opening and open phase to closing and closed phase 60:40

Milk:Rest Ratio: Ratio of time milk can flow to when it is stopped 65:35