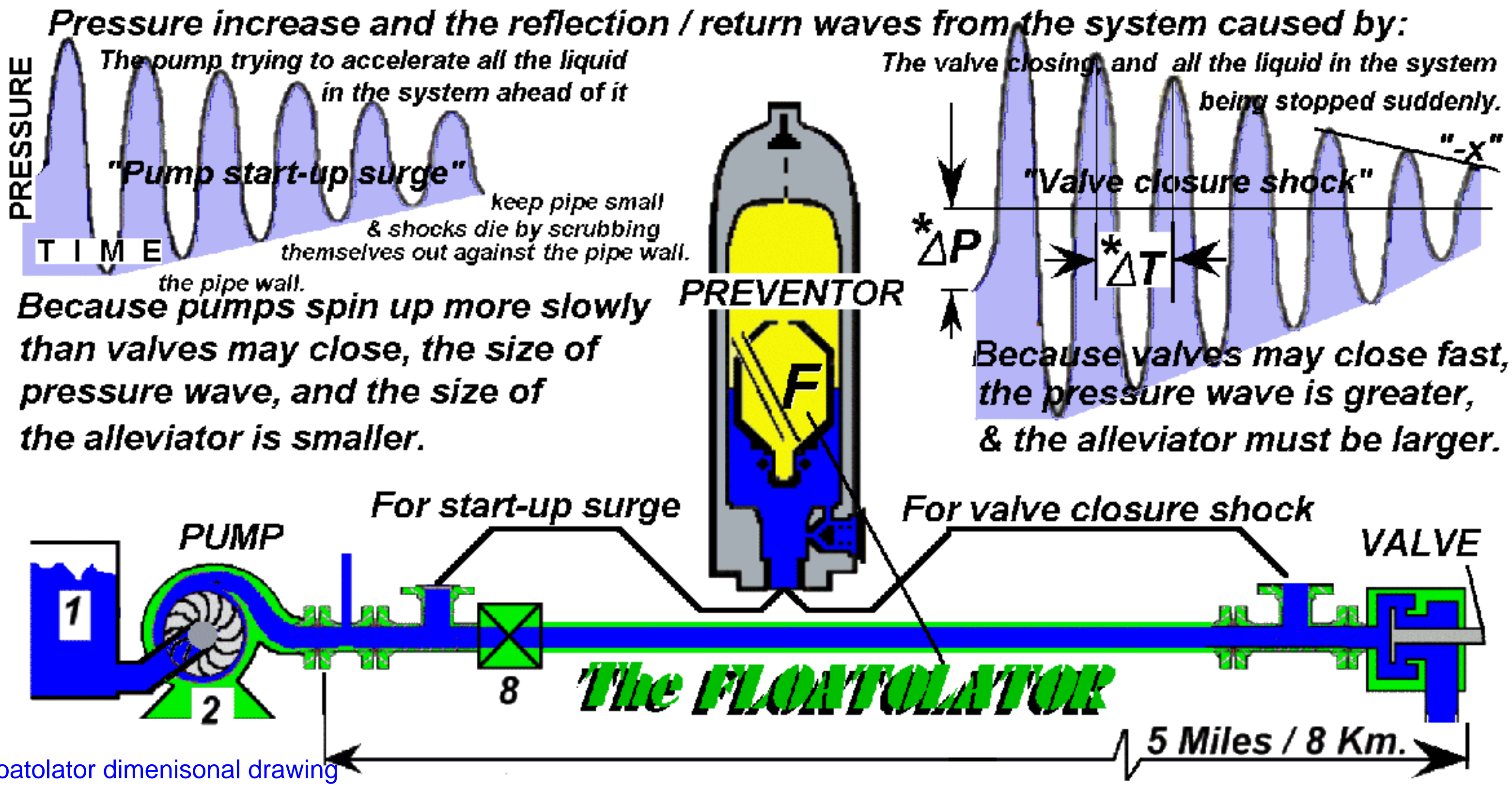
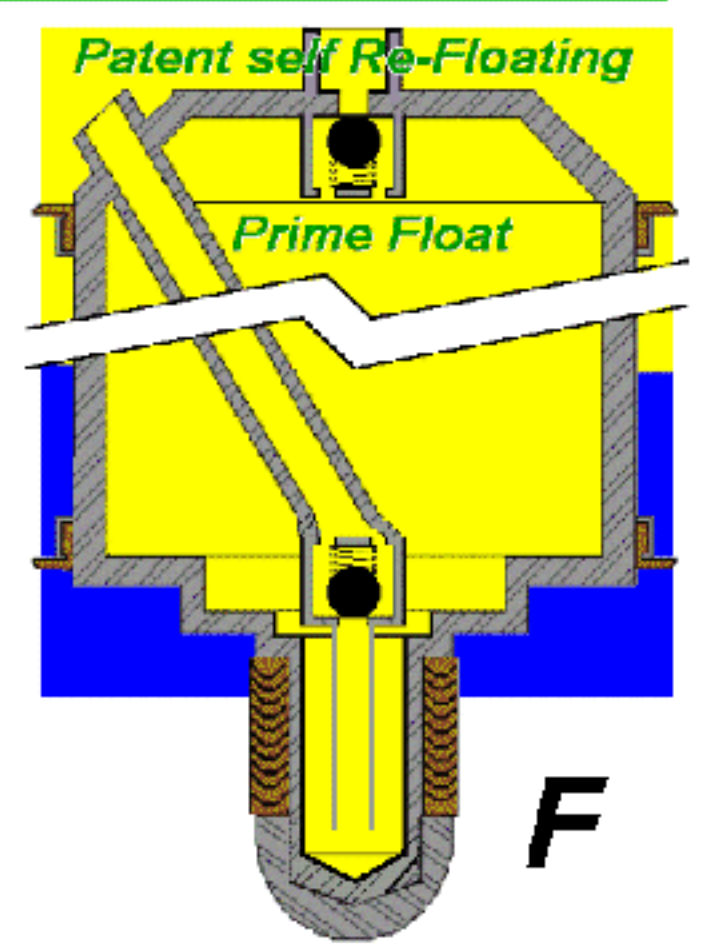


**START-UP SURGE ALLEVIATION or WATER HAMMER PREVENTION FROM VALVE SLAM**  
**AN EXPLANATION**  
 & systems that are incompatible with, or too large for, gas bags and liquid bladders.



**Reading an "LDI" SHOCKVIEW plot :**

- \* $\Delta P$  The start point on the pressure axis is the figure for pressure after pressure drop for the length of your system. Deducting this from mean pressure, gives the Delta P drop for your pipe.
- \* $\Delta T$  The time difference between one peak and the next gives the wave speed frequency / "acoustic" for your system, be sure to check against the pipe shake frequencies.
- "-x" The slope, or reduction from one peak to the next tells you whether your system is naturally "dissipative". If the slope is steep, your system will not become a pressure amplifier.



**EXPLANATION, HOW SHOCK & SURGE PREVENTION WORKS**

Shock alleviators do not alleviate shock, nor do surge alleviators alleviate surge. **SurgeGuard, Jumboflex, and Floatolator** all work in the same way. They provide a soft place, so that the pump does not have to instantly accelerate all the liquid in the system when it starts. Similarly, they provide a place into which flow can continue, for a time, against increasing resistance, when a valve has been slammed.

In both cases, because time has been increased, peak pressure generation is decreased. In short, they all PREVENT the peak pressure from being generated. They are all preventors, they do not alleviate something that has happened.

