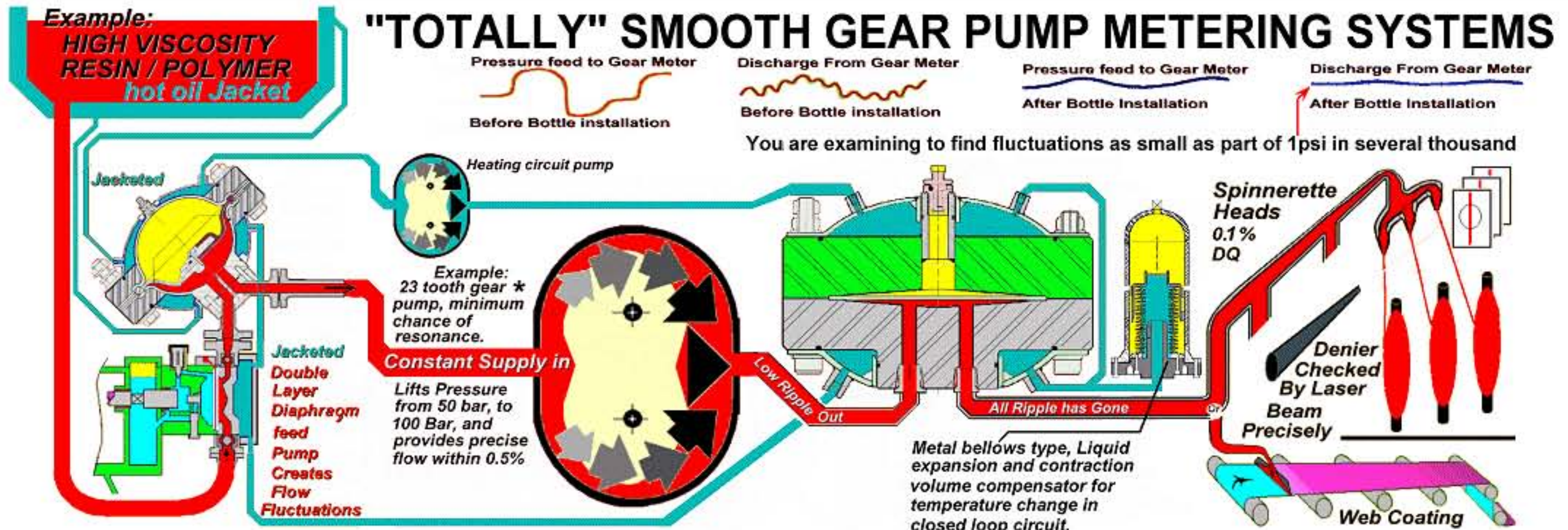




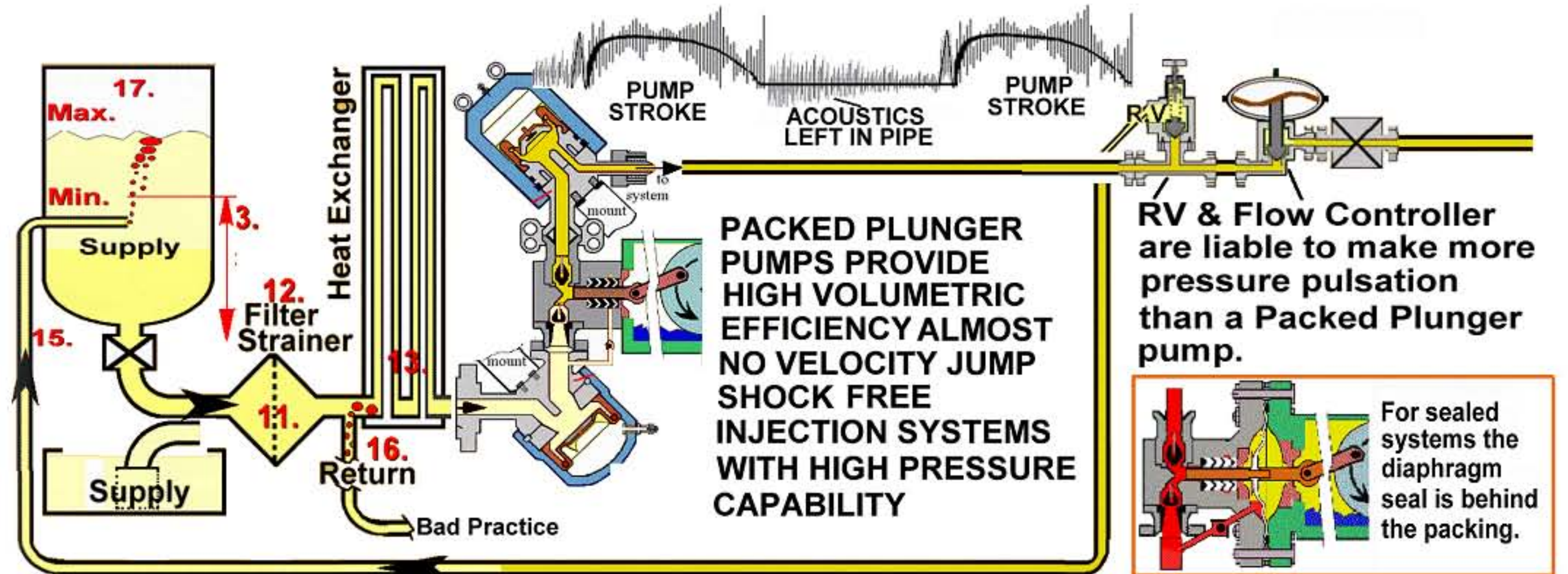
GEAR METERING
Smooth SYSTEMS



PACKED PLUNGER
Shockless SYSTEMS



MINIMUM DEAD VOLUME, PACKED PLUNGER PUMP SYSTEMS



BEFORE ANALYZING SYSTEM PRESSURE AMPLITUDE @ FREQUENCY AND % ages are of theoretical

<p>14% Stop Drive belt break-up, keep instant load changes less than 14%</p>	<p>9% To Stop premature Lift & "weeping", keep all pressure waves that are sustained for in excess of 40ms below 9% less than static set pressure.</p>	<p>5% If in doubt stay below 5 psi transient over pressure to stop pipe fatigue.</p>	<p>6% Shaft Deflection</p>	<p>3.5% Constant Streams In Fully Mixed Out</p>
<p>12% To stop tooth chatter wear, depending on machine inertia, keep pressure transients less than 12%</p>	<p>8% Prevent burst disk fatigue, by keeping repetitive spikes to less than + & - 4% of steady state pressure.</p>	<p>5% Examples: 25ft of 1" pipe with a 100Hz frequency Keep pulsation below 10 psi. 6500 ft of 20" @ 0.5 Hz. keep below 30 psi</p>	<p>5% Spray blobs, have atomization.</p>	<p>4% Bobbin in Tapered Transparent Tube</p>

