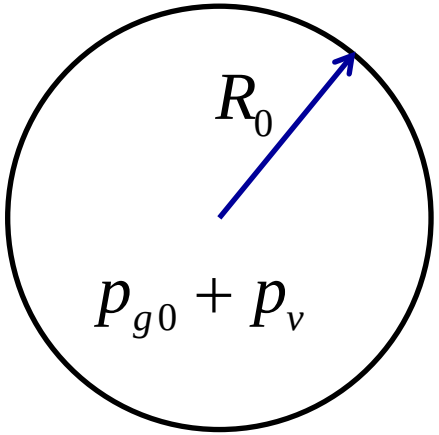
- **Rayleigh-Plesset equation :**

$$\rho\left[R\ddot{R}+\frac{3}{2}\dot{R}^2\right]+\frac{4\mu}{R}\dot{R}=\left(p_{\infty 0}-p_v+\frac{2S}{R_0}\right)\left(\frac{R_0}{R}\right)^{3k}-p_\infty+p_v-\frac{2S}{R}$$

- **Bubble initially at equilibrium**



$p_{\infty 0}$

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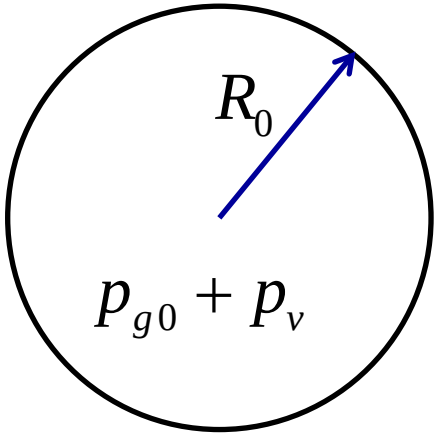

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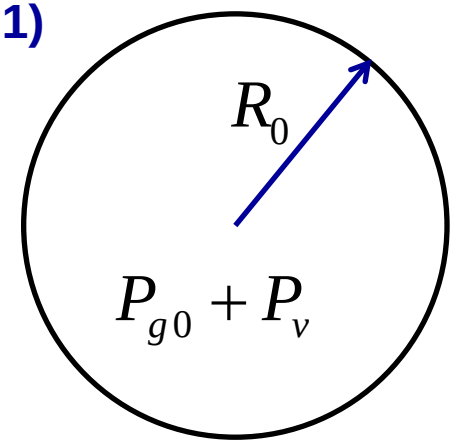
- **Polytropic evolution of non-condensable gas pressure:**

1)



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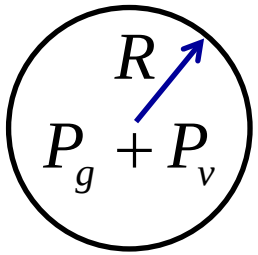
2)



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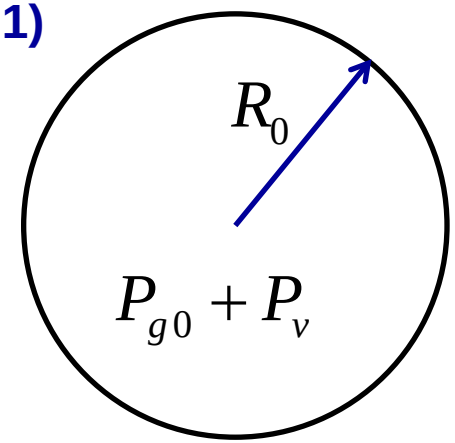

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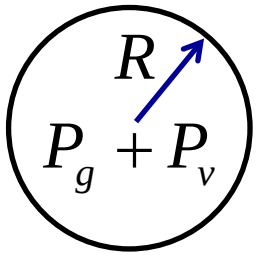

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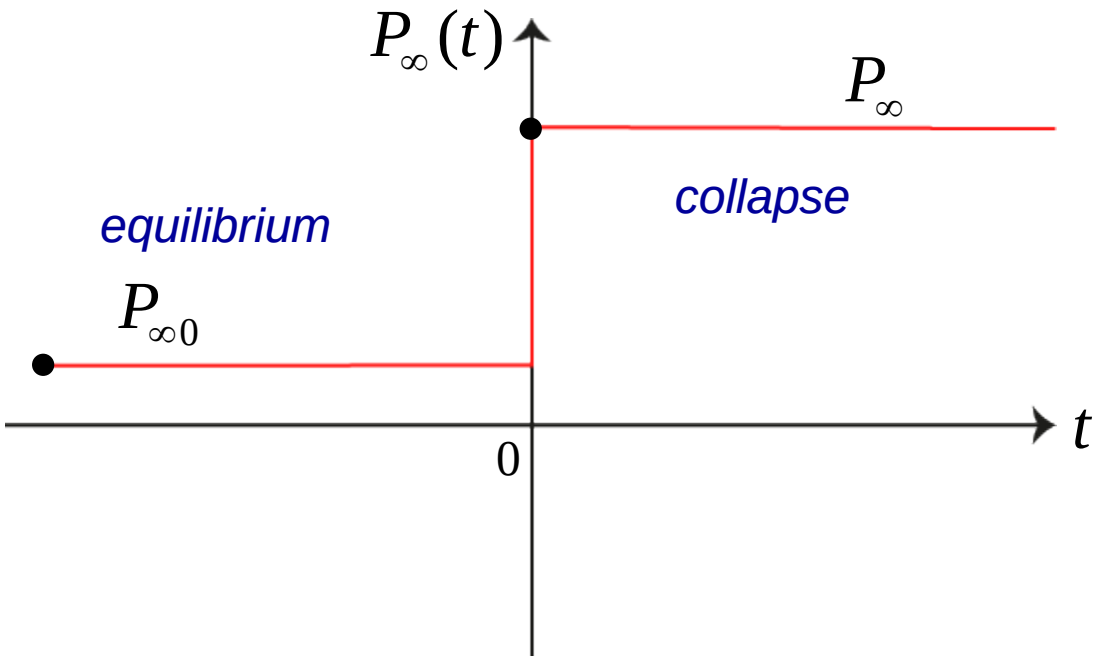

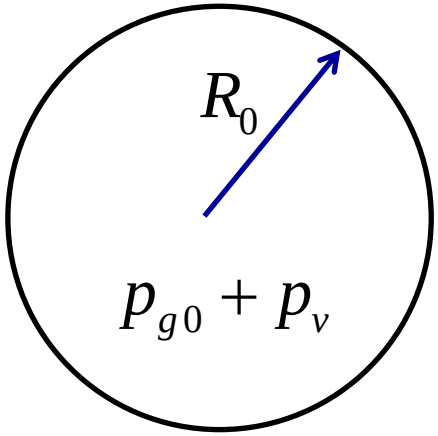

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- μ viscosity = 1,00×10^{-3} Pa·s
- S surface tension= 0.072 N/m
- k polytropic exponent: isothermal → 1, adiabatic →1.4
- p_v vapor pressure≈ 2300 Pa
- $p_{\infty 0}$ et R_0 determine the quantity of non-condensable gas within the bubble

$$p_{g0}=p_{\infty 0}-p_v+\frac{2S}{R_0}$$