

Critical Point

The **critical point** is the point on a $P - V - T$ diagram where there is no change in the specific properties of saturated liquid and saturated vapor, eg, $v_f = v_g = v_{cr}$, $u_f = u_g$ and $u_{fg} = 0$; $h_f = h_g$ and $h_{fg} = 0$. There is no latent heat of vaporization.

The pressure, temperature and specific volume at the critical point are known as the critical pressure P_{cr} , the critical temperature T_{cr} and the critical specific volume v_{cr} .

The critical-point properties of **water** are

$$P_{cr} = 22.09 \text{ MPa}$$

$$T_{cr} = 374.14 \text{ }^{\circ}\text{C}$$

$$v_{cr} = 0.003155 \text{ m}^3/\text{kg}$$