

3-a-3

Two diagrams of a liquid vapor dome are shown. A process takes place in which a saturated liquid with $P = 4 \text{ MPa}$ is heated to a state where $T = 300^\circ\text{C}$ and $P = 4 \text{ MPa}$.

Which diagram(s) are correct?

Answer: Only diagram 2

Only diagram 2 is correct. In the T-v diagram the correct process and the matching isobar are displayed. Diagram 1 shows a P-v diagram, and the isotherm is wrong, the line should go down after exiting the liquid-vapor dome. Also, the liquid vapor dome should be a little different.