Given:
R-134a enters the capillary tube of a refrigerator as a saturated liquid at 0.8 MPa and is throttled to a pressure of 0.12 MPa.

$P_1 := 0.8\ \text{MPa}$ $P_2 := 0.12\ \text{MPa}$

Required:

Determine the quality of the R-134a at its final state and the temperature drop during the process.

Solution:
Going to Table A-12 @ $P := P_1 = 0.8\ \text{MPa}$ and $x = 0$ shows

$h_1 := 95.48\ \frac{\text{kJ}}{\text{kg}}$ $T_1 := 31.31\ ^\circ\text{C}$

For a capillary tube, the enthalpy during the process remains constant so

$h_2 := h_1 = 95.48\ \frac{\text{kJ}}{\text{kg}}$

Going to Table A-12 @ $P := P_2 = 0.12\ \text{MPa}$ and $h := h_2 = 95.48\ \frac{\text{kJ}}{\text{kg}}$ shows that the state is in the two phase mixture region.

$h_f := 22.47\ \frac{\text{kJ}}{\text{kg}}$ $h_g := 236.99\ \frac{\text{kJ}}{\text{kg}}$ $T_2 := (-22.32)\ ^\circ\text{C}$

$$\boxed{x := \frac{h_2 - h_f}{h_g - h_f} = 0.3403}$$

The temperature difference across the device is

$$\boxed{\Delta T := T_2 - T_1 = -53.63\ \text{K}} \qquad \Delta T = -53.63\ \Delta^\circ\text{C}$$