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1] Motion:-

A change in position of link is called motion. When there is no change in position of a link, it is said to be at rest and when it is being displaced, it is said to be in motion.

Motion described with respect to the frame is called absolute motion and the motion described with respect to another moving body is called the relative motion.



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Numerical Problems:

1. An ideal regenerative cycle operates with dry saturated steam, the maximum and minimum pressures being 30 bar and 0.04 bar respectively. The plant is installed with a single mixing type feed water heater. The bled steam pressure is 2.5 bar. Determine (a) the mass of the bled steam, (b) the thermal η of the cycle, and (c) SSC in kg/kWh.

Solution:

$P_1 = 30 \text{ bar}$ $P_2 = 2.5 \text{ bar}$ $P_3 = 0.04 \text{ bar}$

From steam tables, For $P_1 = 30 \text{ bar}$, $h_2 = 2802.3 \text{ kJ/kg}$, $s_2 = 6.1838 \text{ kJ/kg}^\circ\text{K}$

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