

SAA0187

Sistemas Aeronáuticos de Acionamento

Modelagem em Hopsan parte 2

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- Esta aula trata de comando de múltiplos atuadores, de diferentes formas
 - Uso de válvulas de alívio
 - Uso de válvulas restritoras
 - Uso de controle por sinais lógicos

- Modelo 1:

Pump ($d = 15\text{cm}^3/\text{rev}$ | $n = 2300\text{ RPM}$)

4/2 directional valve

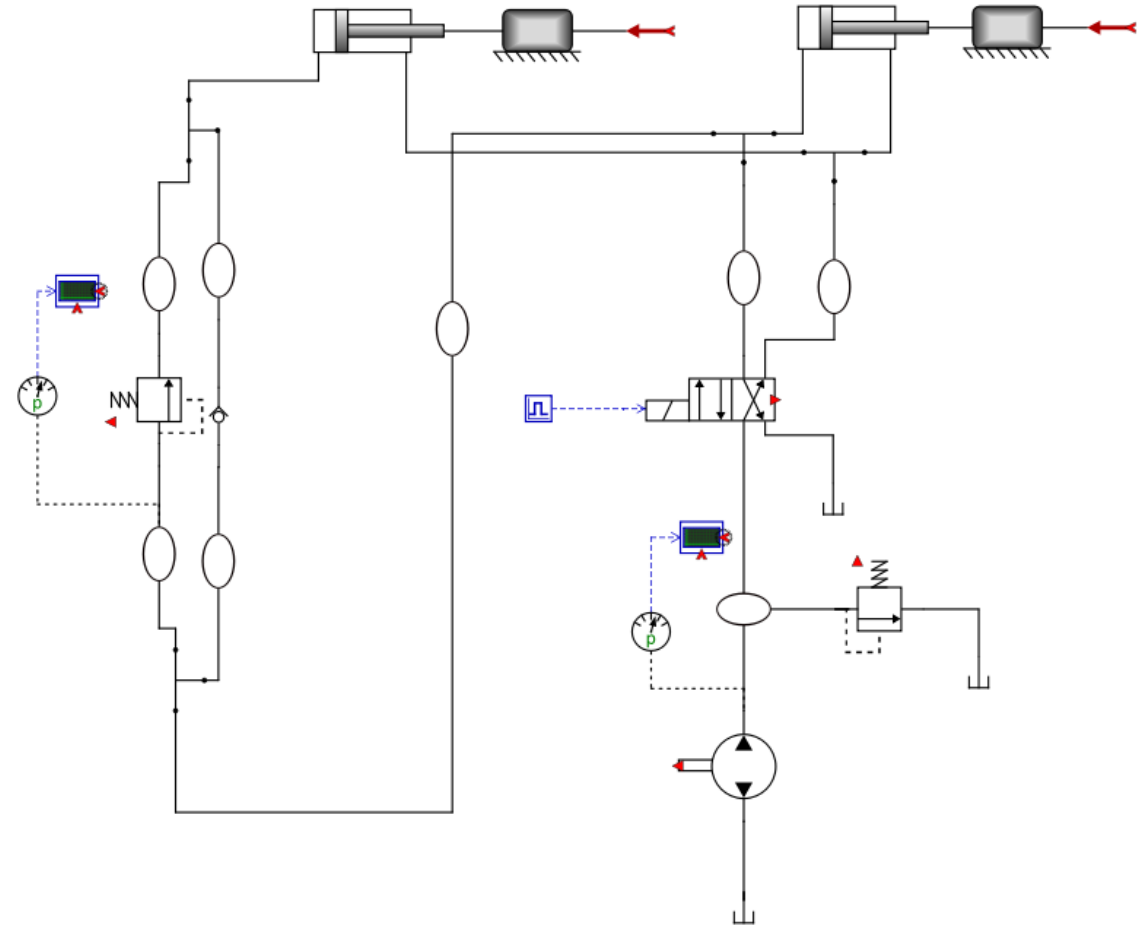
Double action cylinder actuator ($A_1 = 10\text{cm}^2$ | $A_2 = 8\text{cm}^2$ | $s = 50\text{cm}$)

Mineral oil ($\rho = 870\text{ kg/m}^3$ | $\beta = 1.8\text{e}9\text{ Pa}$)

Mass (100kg | $F_s = 250\text{N}$ | $F_d = 200\text{N}$)

Pressure Relief Valve [pump] ($P = 3300\text{ psi}$)

Pressure Relief Valve [cylinder] ($P = 1000\text{ psi}$)



- Modelo 2:

Pump ($d = 10\text{cm}^3/\text{rev}$ | $n = 2300$ RPM)

4/2 directional valve

Double action cylinder actuator ($A_1 = 10\text{cm}^2$ | $A_2 = 8\text{cm}^2$ | $s = 100\text{cm}$)

Mineral oil ($\rho = 870$ kg/m³ | $\beta = 1.8\text{e}9$ Pa)

Mass [Door] (100kg | $F_s = 250\text{N}$ | $F_d = 200\text{N}$)

Mass [Landing Gear] (2000kg | $F_s = 500\text{N}$ | $F_d = 400\text{N}$)

Pressure Relief Valve [pump] ($P = 3300$ psi)

Pressure Relief Valve [cylinder] ($P = 2900$ psi)

Flow Control Valve ($K_c = 1\text{e-}10$)

Accumulator ($V_0 = 2$ L)

