



A thermodynamic diagram illustrating a process between two reservoirs. At the top, a grey rectangular block represents a hot reservoir at temperature  $T_H = 400\text{ K}$ . A thick black horizontal line separates this reservoir from the space below. From this line, two curved lines extend downwards and outwards, defining a region. Inside this region, a downward-pointing arrow is positioned to the left of the text  $Q_H = -6000\text{ J}$ . To the right of the region, a rightward-pointing arrow is positioned above the text  $W = 6000\text{ J}$ . At the bottom, another grey rectangular block represents a cold reservoir at temperature  $T_C = 300\text{ K}$ . A thick black horizontal line separates this reservoir from the space above.

$$T_H = 400\text{ K}$$

$$Q_H = -6000\text{ J}$$

$$W = 6000\text{ J}$$

$$T_C = 300\text{ K}$$