

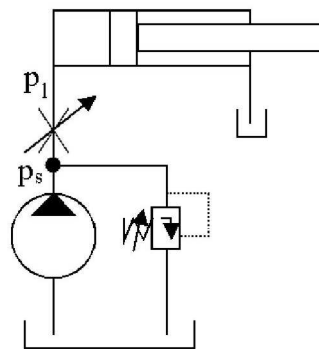
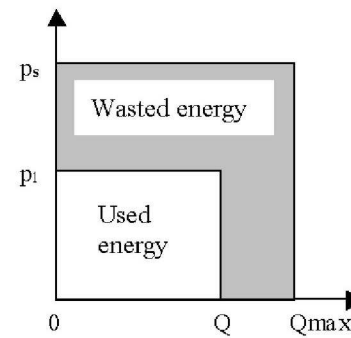
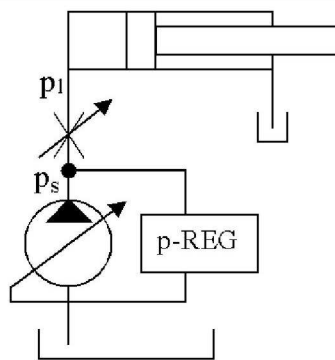
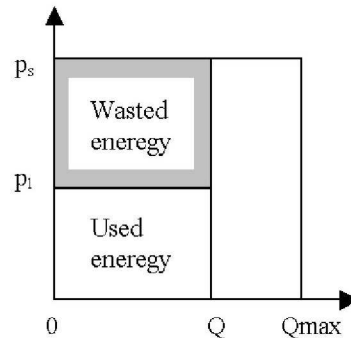
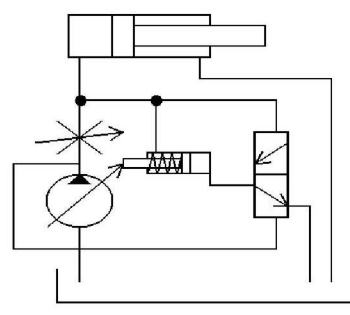
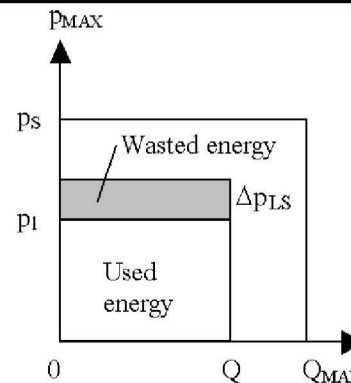
Hydraulic circuit	Scheme	The energetic characteristic
<b>System characterised by constant flow</b> $P_{HG} = Q_{\max} \cdot p_s$ $P_s = Q \cdot p_l$ $P_w = Q_{\max} \cdot p_s - Q \cdot p_l$ $\eta = 38\%$		
<b>System characterised by constant pressure</b> $P_{HG} = Q \cdot p_s$ $P_s = Q \cdot p_l$ $P_w = Q(p_s - p_l)$ $\eta = 67\%$		
<b>Load-sensing system</b> $P_{HG} = Q \cdot (p_s + \Delta p_{LS})$ $P_s = Q \cdot p_l$ $P_w = Q \cdot \Delta p_{LS}$ $\eta > 67\%$		

Table 1 – The Basic concepts of the hydraulic circuits –

The first is system characterised by constant flow. The pump is producing pressure medium characterised by constant pressure and low. The efficiency is low, because the wastes by strangling and by pressure issue of the system occurs in this circuit.

The second concept is a system characterised by constant pressure of the system. The new element in the hydraulic circuit is a sensor of the pressure. The value measured by this sensor is used for control of the flow and the result of using this sensor is decreasing of the wastes by pressure issue of the system.

The third concept is Load-Sensing system. This is the most effective method. The pressure of the system is set considering the pressure of the load. The result is reduction of the waste by strangling and by pressure issue of the system.