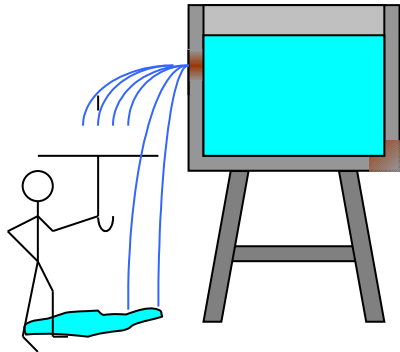
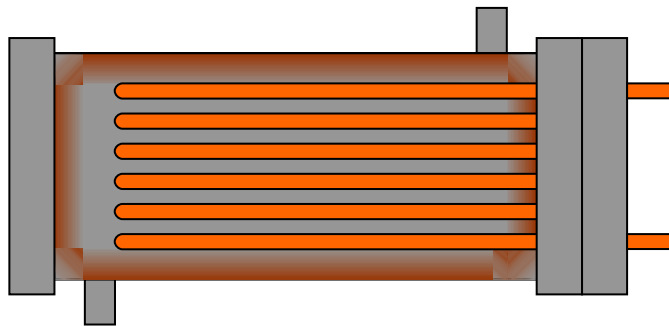
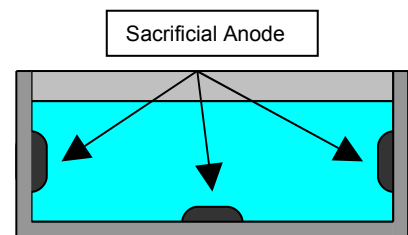


## INTERNAL CORROSION



Metal vessels, tanks, pipes etc.. containing sea or fresh water, are often affected by corrosion phenomena, due to the liquid they contain, particularly close to the welded or soldered joints. Noteworthy is the case of AISI 304 steel, very sensitive to stagnant fresh water.

In these cases, the anticorrosive cathodic protection can be provided by sacrificial anodes, fixed internally to the structure by welding or bolting. The use of impressed current systems is recommended if the periodical anodes replacement is too difficult or anode lifetime too short.



Capacitors and heat exchangers show corrosion areas where different metals are coupled together (galvanic coupling), e.g. carbon steel and cupronickel or titanium. This problem worsens because of oxygen, generated by water speed and turbulence inside the heat exchangers.

For larger-sized capacitors and exchangers the use of impressed current cathodic protection (ICCP) systems is recommended, through which the protective current output can be adjusted to avoid overprotection. A permanent monitoring system detects the internal potential value and indicates the status of protection to achieve longer structure lifetime

