CLAIMS

1. Thermal distillation facility using mechanical vapour compression for the desalination of water, comprising:

- a hermetic chamber (01) comprising an inlet for receiving feed water, an outlet for discharging the distillate, an outlet for discharging the concentrate and an outlet for discharging the non-condensable gases;

- an evaporator/condenser (11) comprising an evaporation zone (02) and a condensation zone (05) inside said hermetic chamber (01);

- a compressor (04) connected to a motor, the compressor being able to increase the pressure of the vapour produced in the evaporation zone (02) and to convey it to the condensation zone (05);

- the hermetic chamber (01) is under partial vacuum, the pressure inside said chamber being less than atmospheric pressure;

characterised in that

- the compressor (04) and its motor are situated inside said hermetic chamber, said motor comprising a stator and a ~~motor~~rotor, said stator and said rotor being situated entirely inside the hermetic chamber.

2. Facility according to claim 1, characterised in that the compressor (04) is a compressor able to achieve a rotation speed above 7500 rev/min.