

Thermodynamique

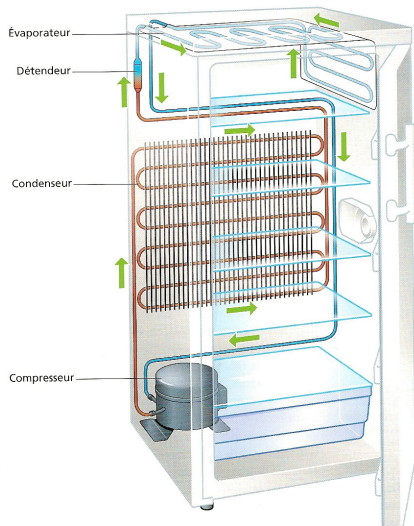
Systèmes ouverts en régime stationnaire

E. Saudrais

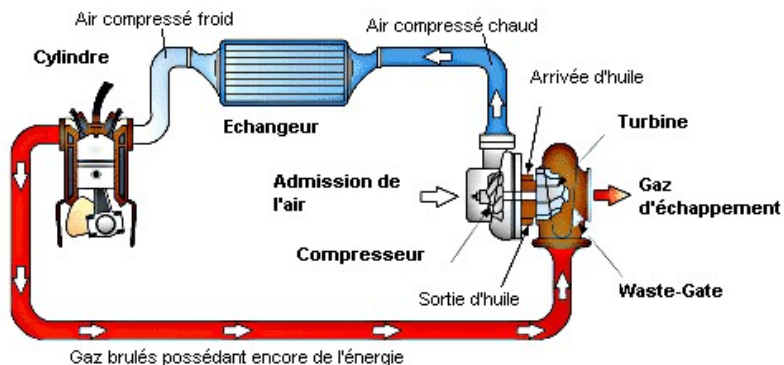
Jean Perrin PSI

14 décembre 2023

[1] – Machines à écoulement



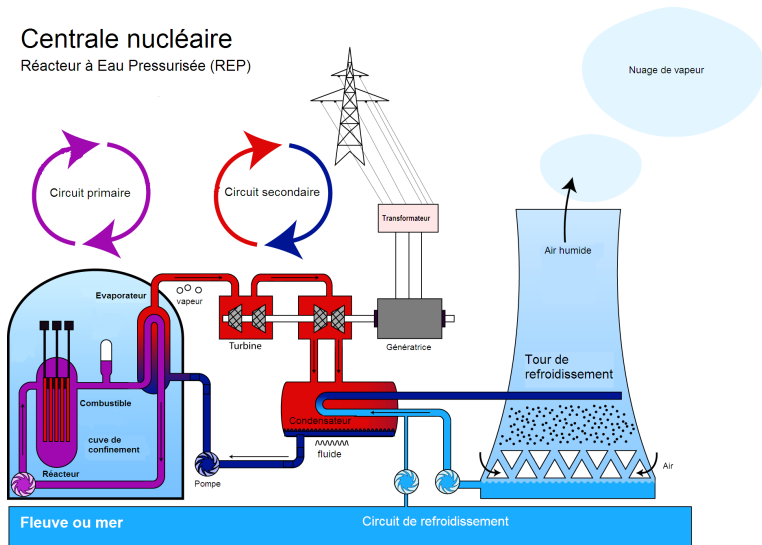
[2] – Machines à écoulement



[3] – Machines à écoulement

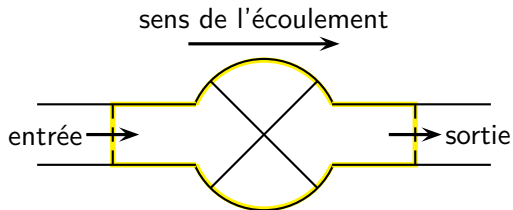
Centrale nucléaire

Réacteur à Eau Pressurisée (REP)



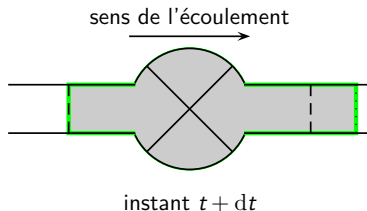
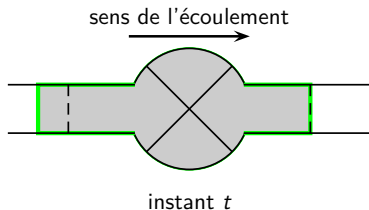
[4] – Méthode d'étude

Système ouvert :

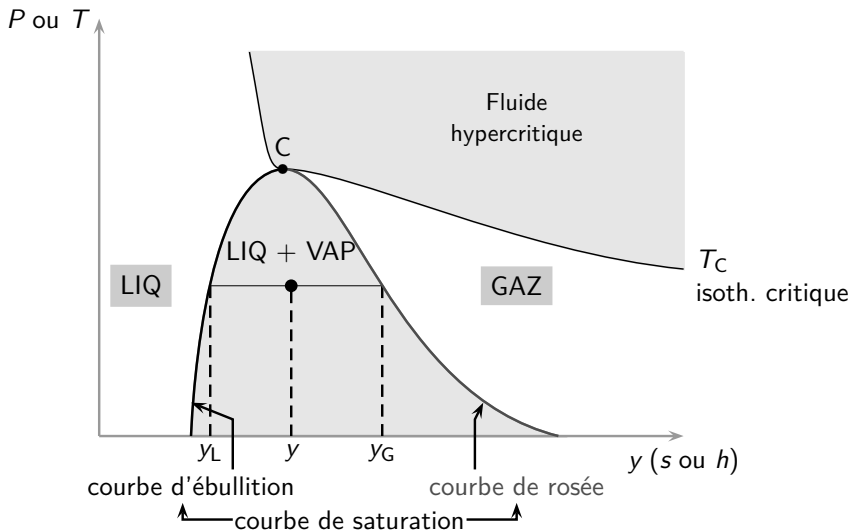


[5] – Méthode d'étude

Construction d'un système fermé :

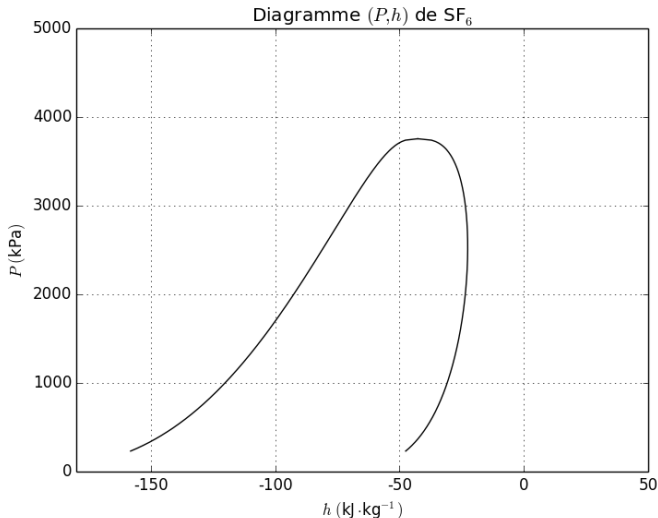


[6] – Diagrammes thermodynamiques (T, s) ou (P, h)



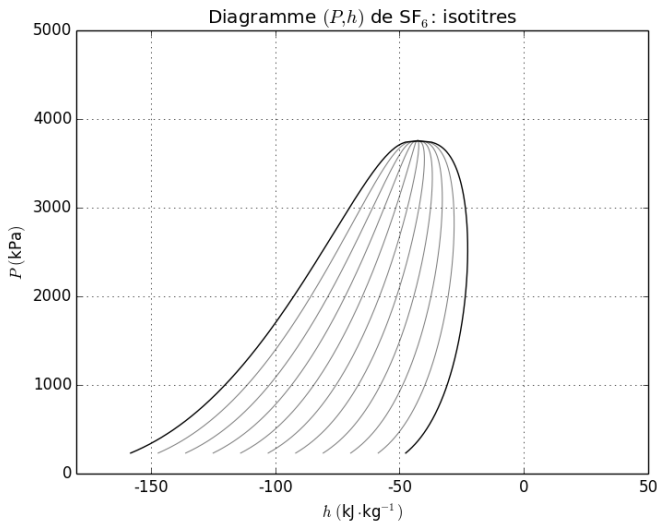
[7] – Diagramme enthalpique (P, h) de SF_6

Courbe de saturation



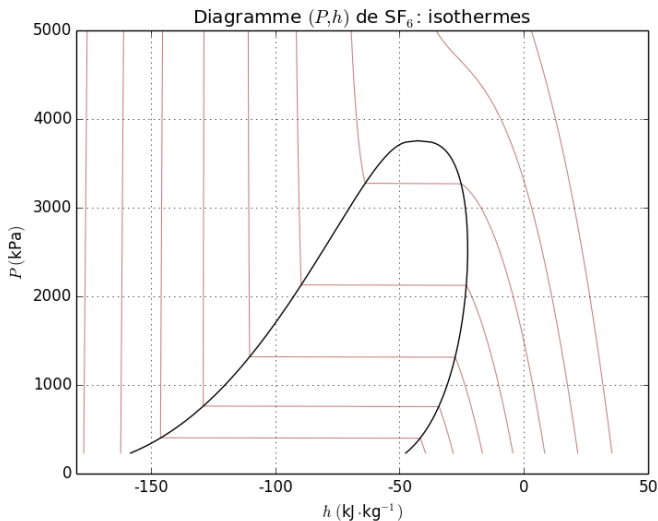
[8] – Diagramme enthalpique (P, h) de SF_6

Isotitres dans la zone diphasée



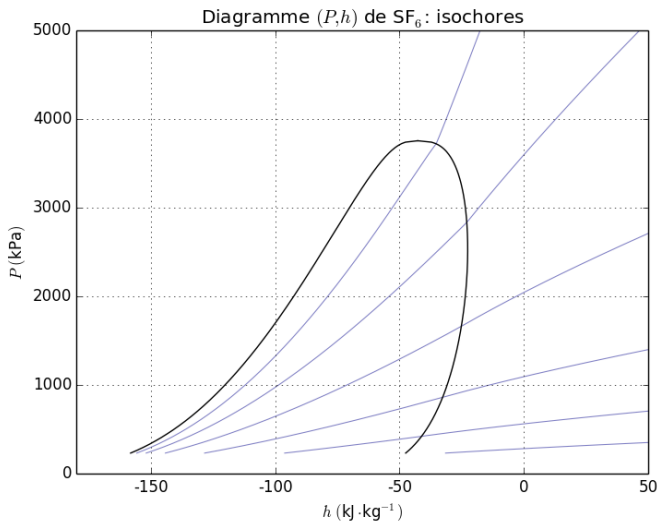
[9] – Diagramme enthalpique (P, h) de SF_6

Isothermes



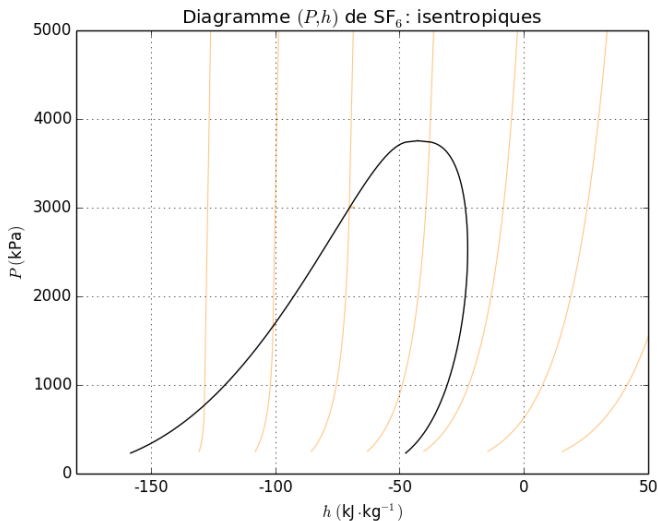
[10] – Diagramme enthalpique (P, h) de SF_6

Iso-volume massique



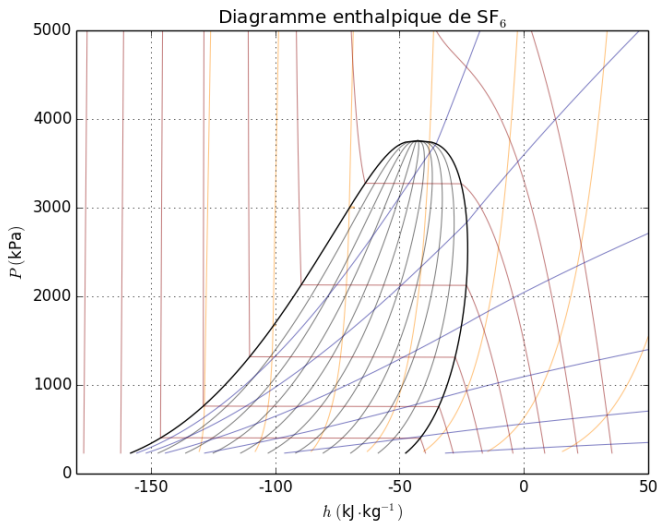
[11] – Diagramme enthalpique (P, h) de SF_6

Isentropiques



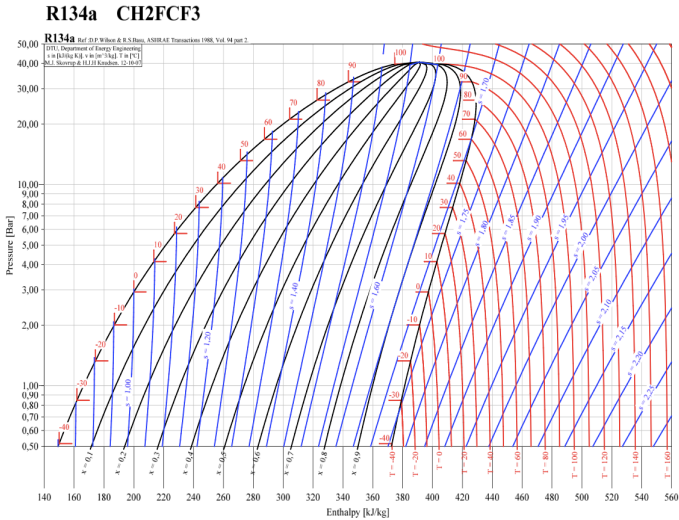
[12] – Diagramme enthalpique (P, h) de SF_6

Diagramme complet

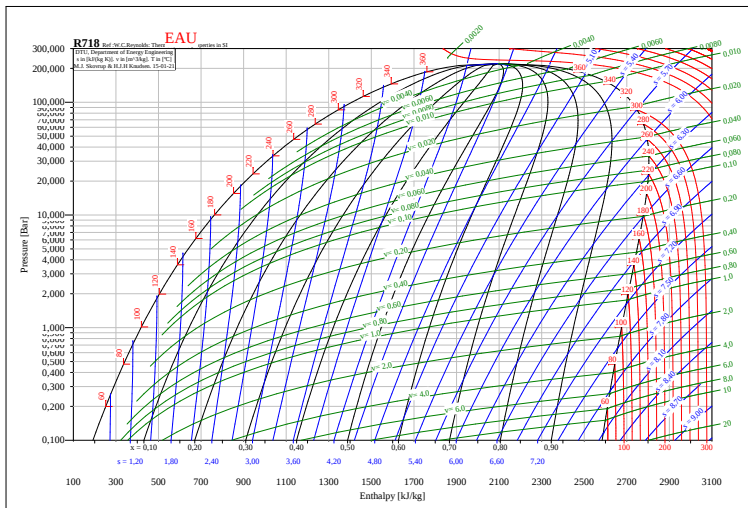


[13] - Diagramme enthalpique du fluide R134a

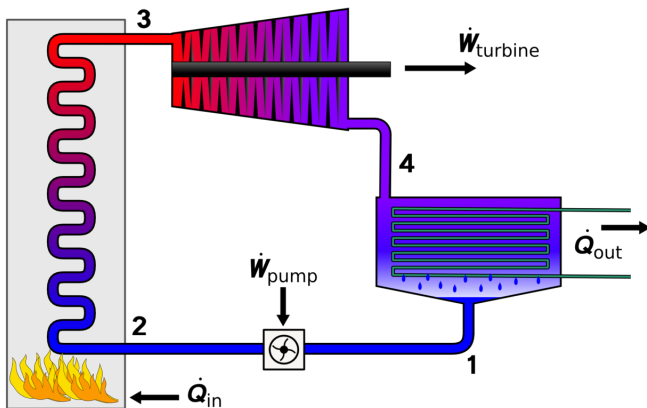
Diagramme complet industriel



[14] - Diagramme enthalpique de l'eau

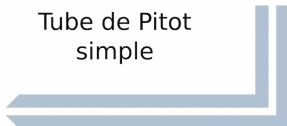


[15] - Machine à vapeur (cycle de Rankine)

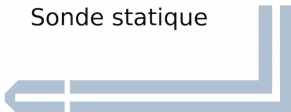


[16] - Prises de pression

Tube de Pitot
simple



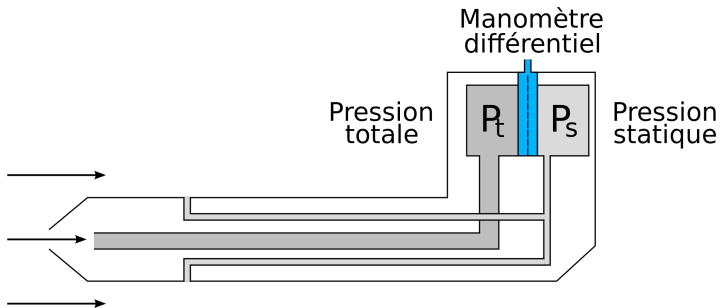
Sonde statique



Tube Pitot-statique
ou antenne de Prandtl



[17] - Tube de Pitot-Prandtl



[19] - Tube de Pitot : exemple (1)

Sur un hélicoptère



[19] - Tube de Pitot : exemple (2)

Sur un avion

