Diagramme thermodynamique (p,h) - Courbes

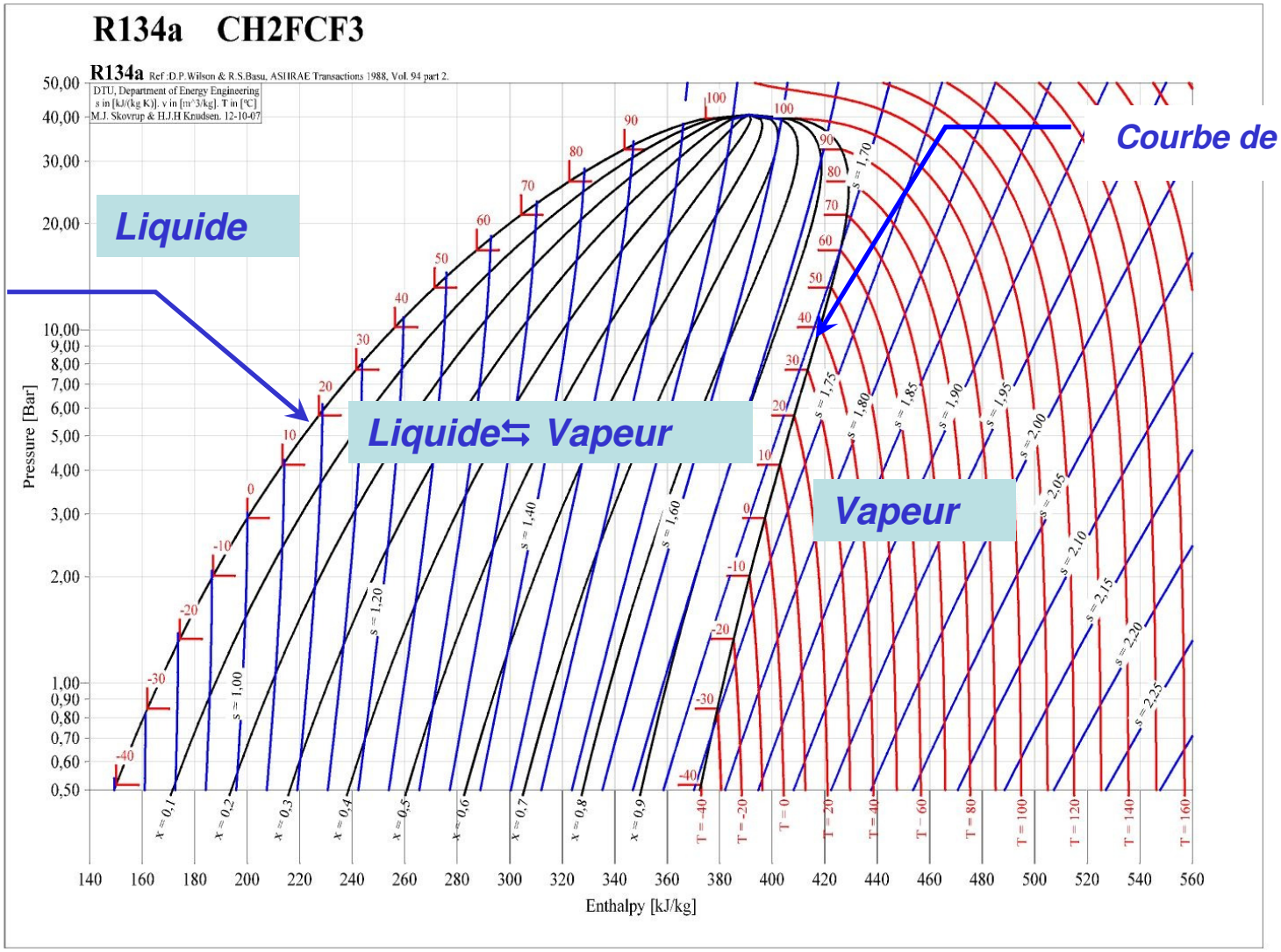


Diagramme thermodynamique (p,h) - Courbes

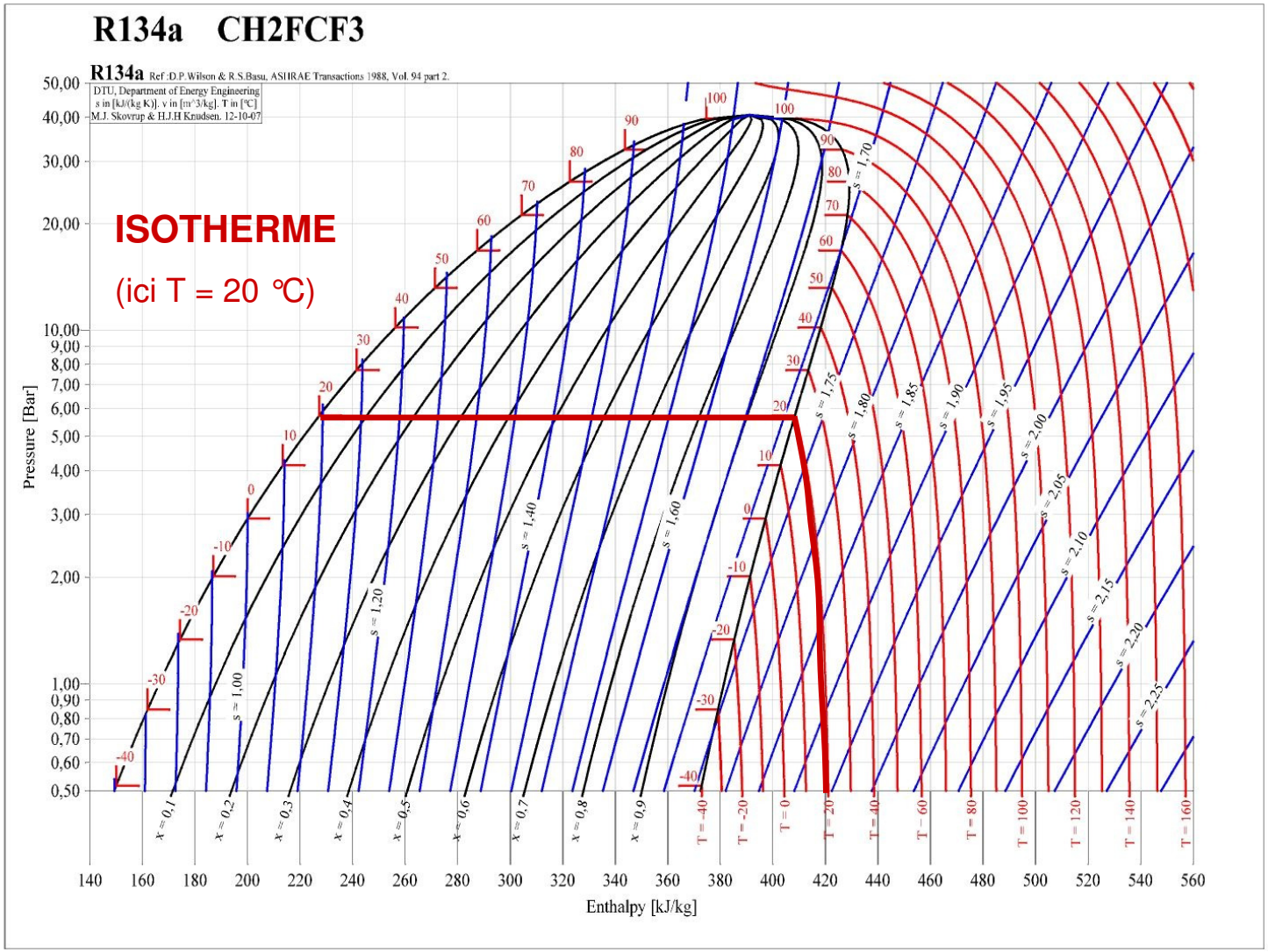


Diagramme thermodynamique (p,h) - Courbes

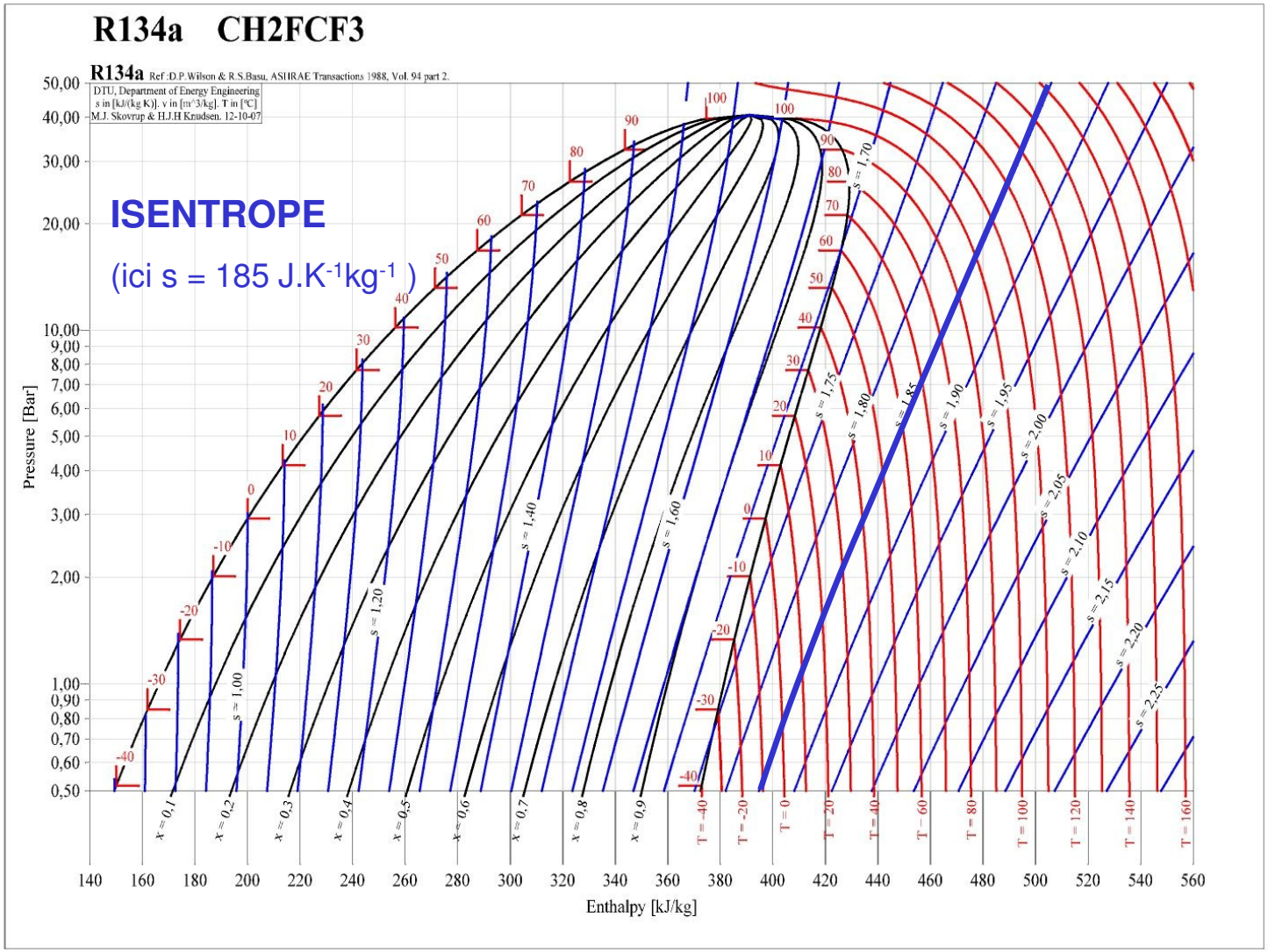


Diagramme thermodynamique (p,h) - Courbes

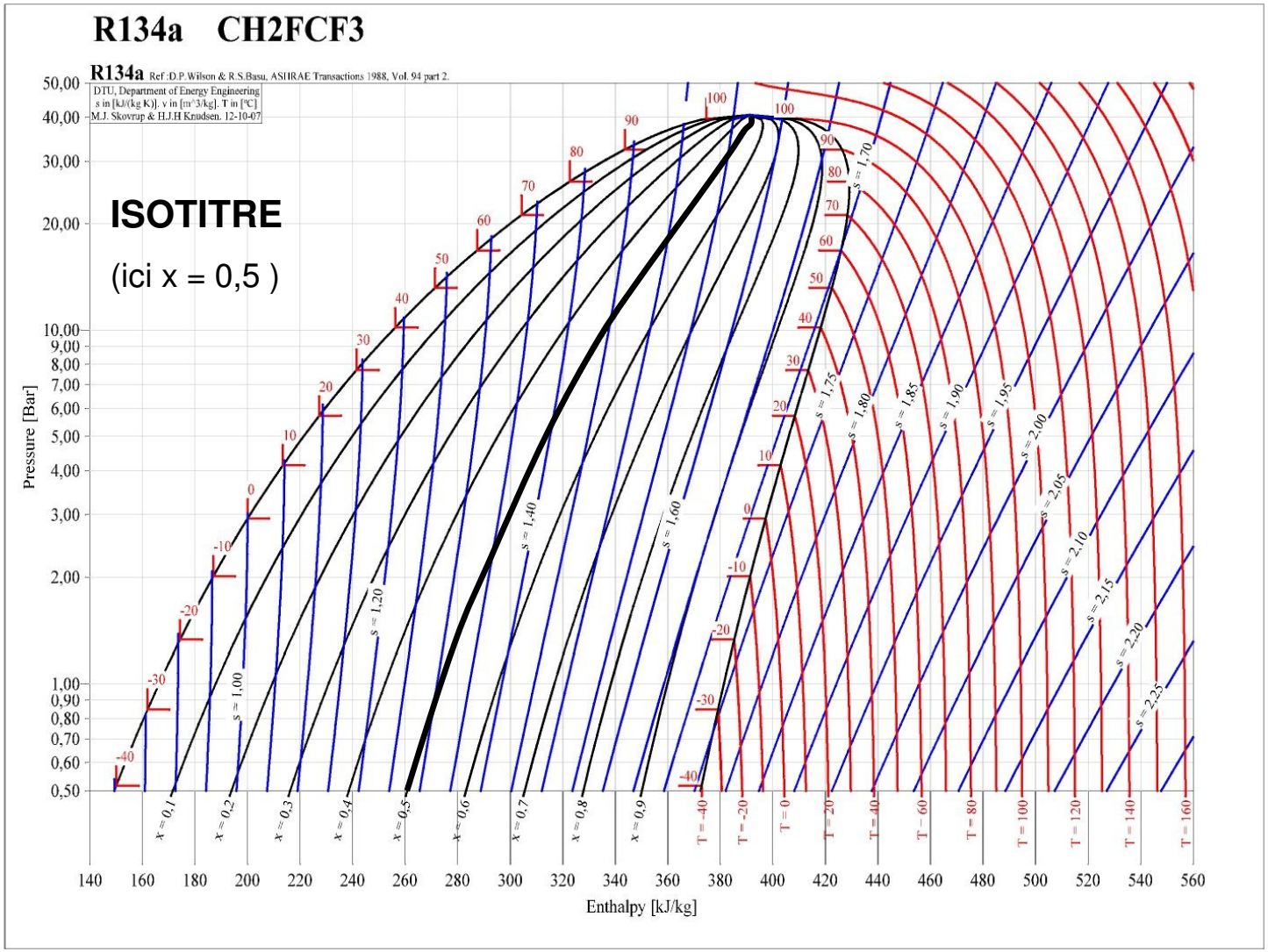


Diagramme thermodynamique (p,h)- Echelle log

P = ?

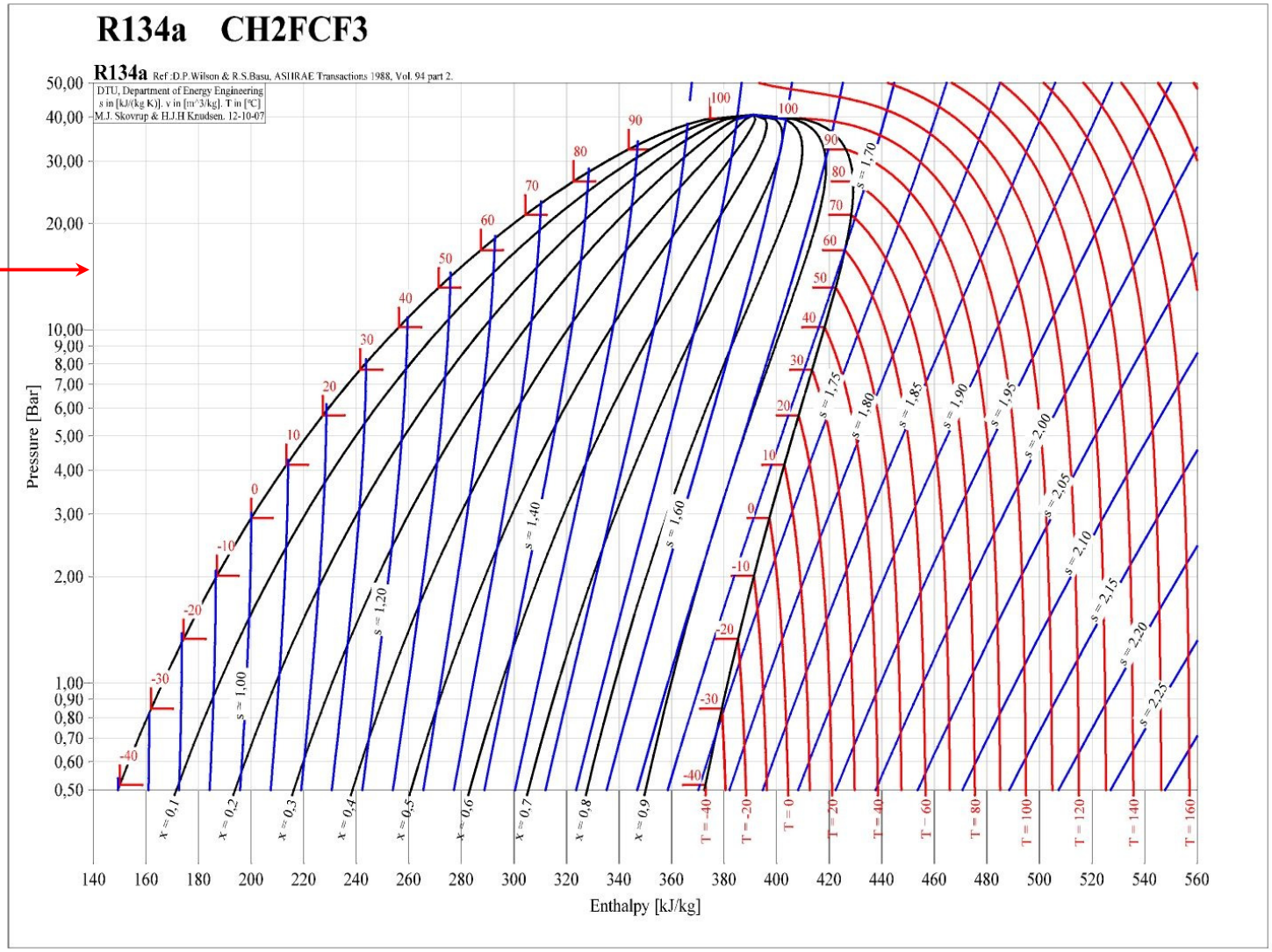


Diagramme thermodynamique (p,h) - Echelle log

P = ?

D_{ref} = 5,3 cm

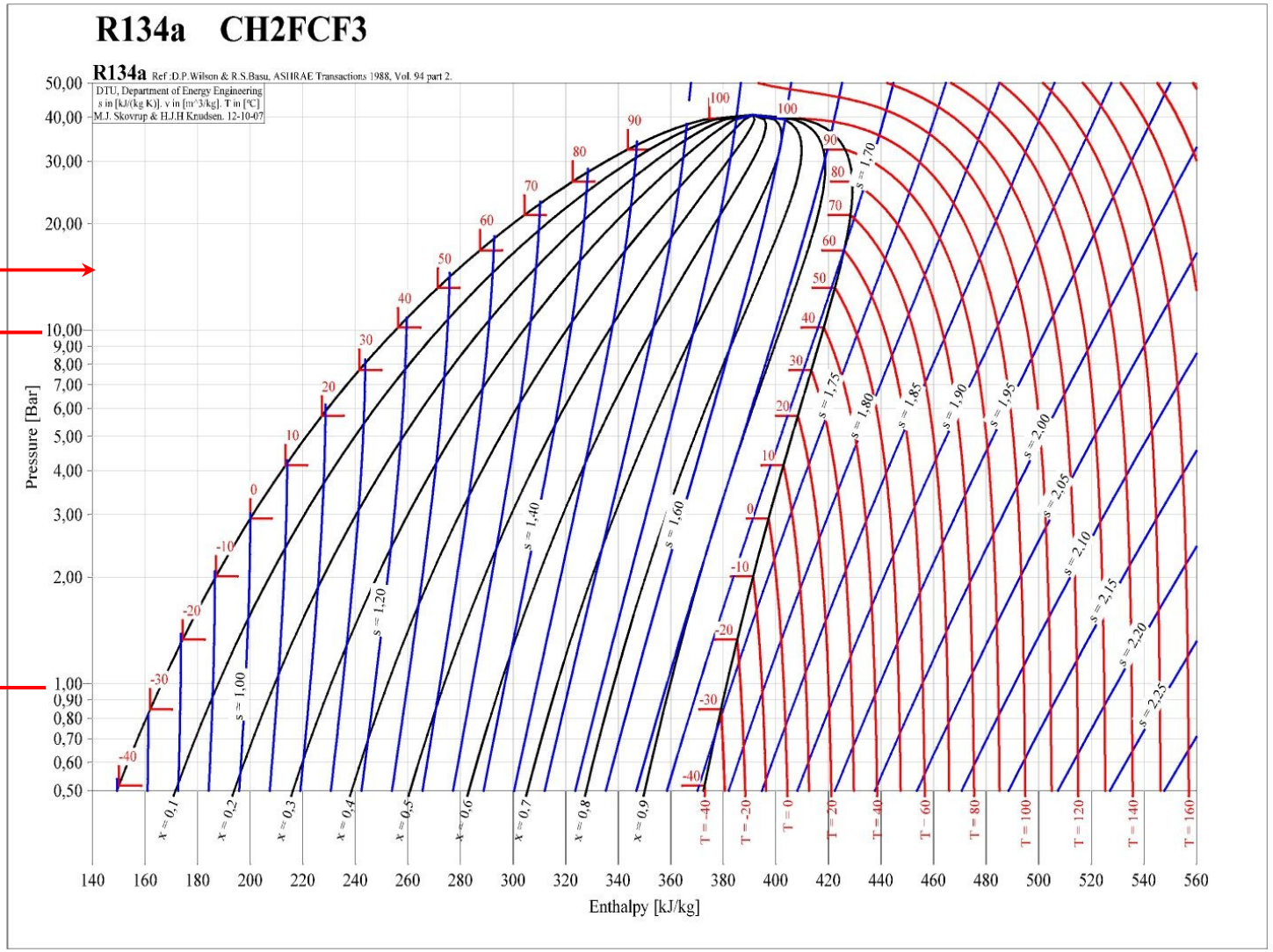


Diagramme thermodynamique (p,h) - Echelle log

P = ?

D_{mes} = 6,2 cm

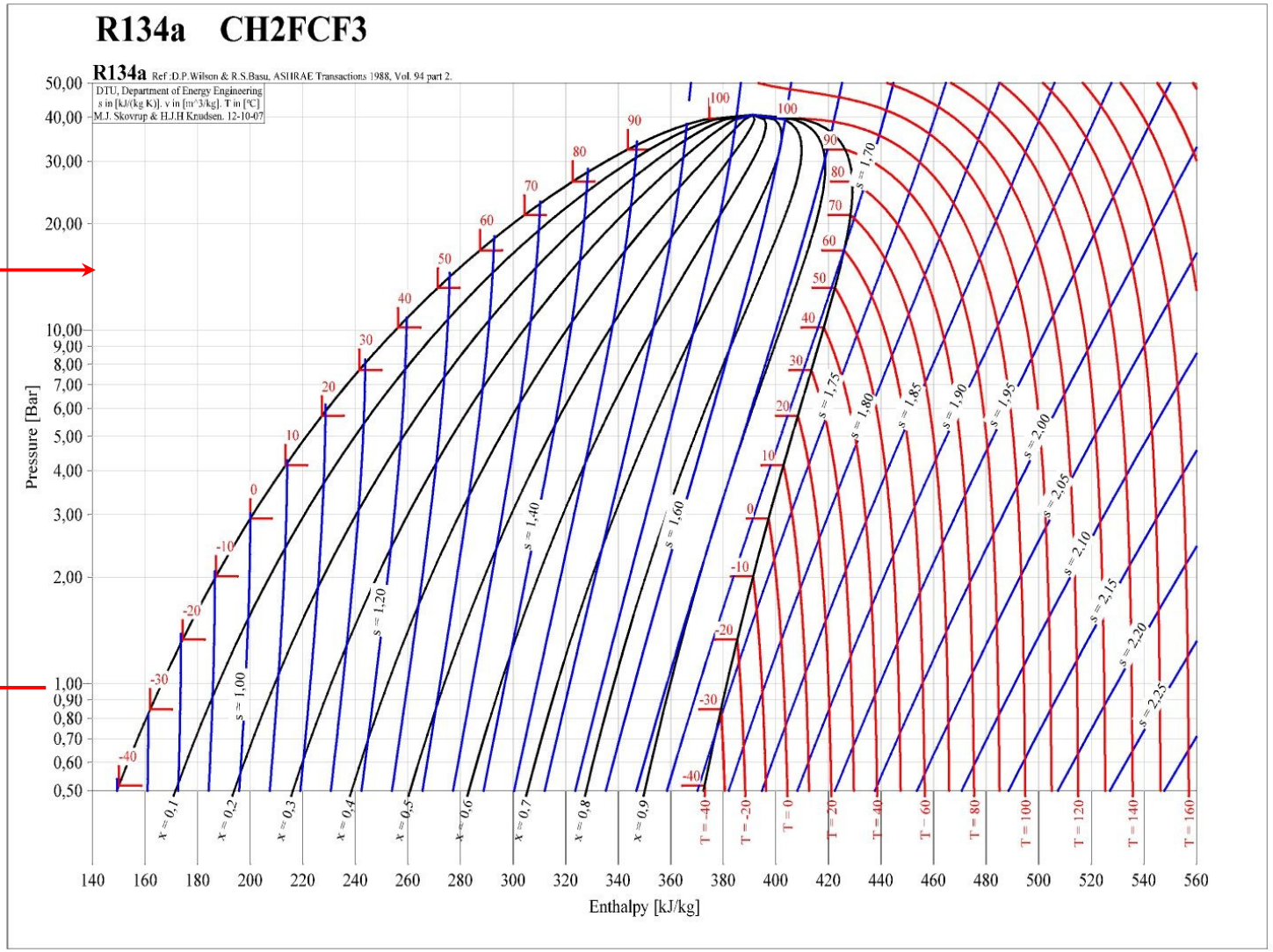
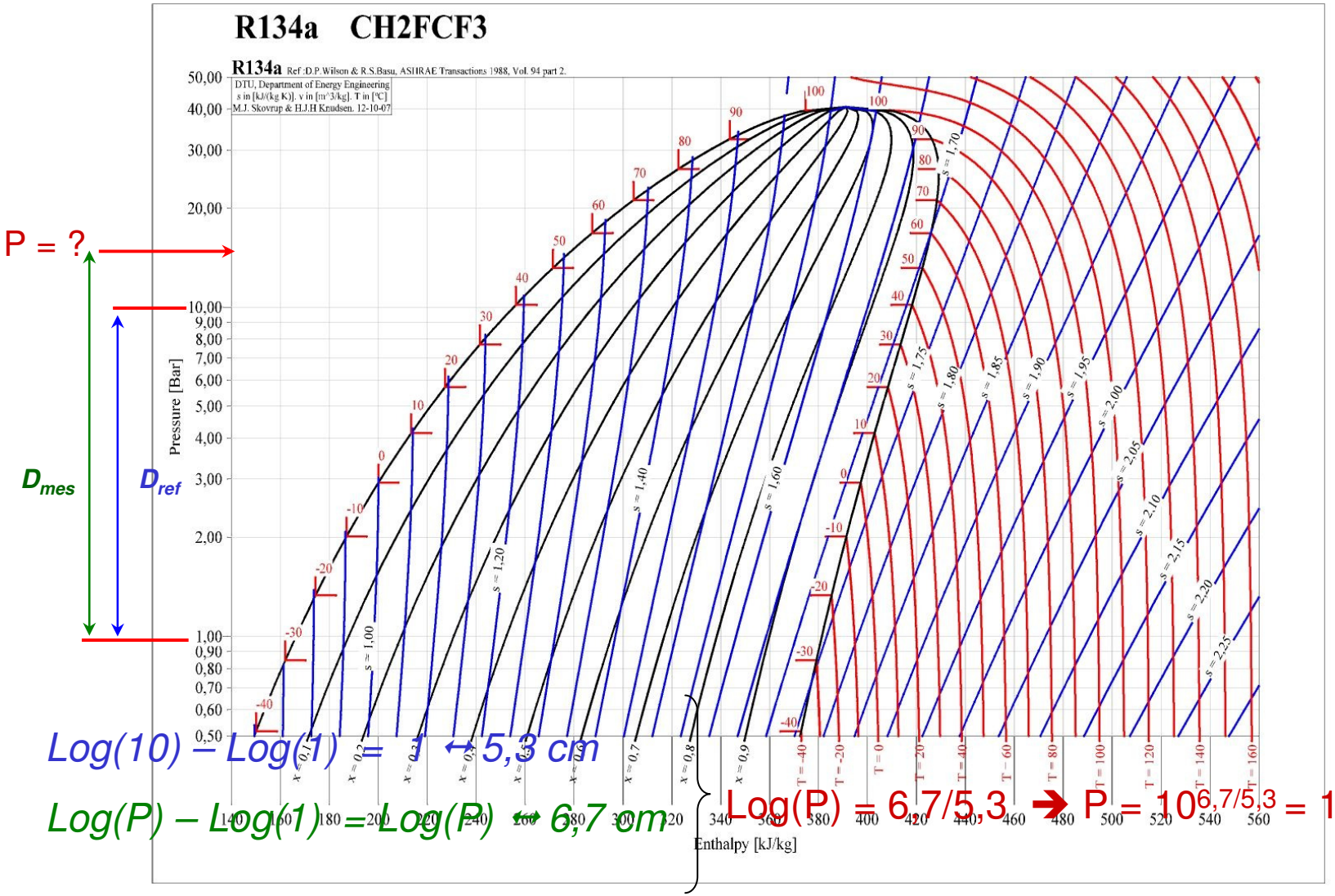


Diagramme thermodynamique (p,h) - Echelle log



Log(10) – Log(1) = 1 ↔ 5,3 cm

Log(P) – Log(1) = Log(P) ↔ 6,7 cm

Log(P) = 6,7/5,3 ➔ $P = 10^{6,7/5,3}$ = 18,4 bar

Diagramme thermodynamique (p,h) – w_i compression adiabatique réversible

Etat initial (P_e = 1 bar, T_e = 20°C)

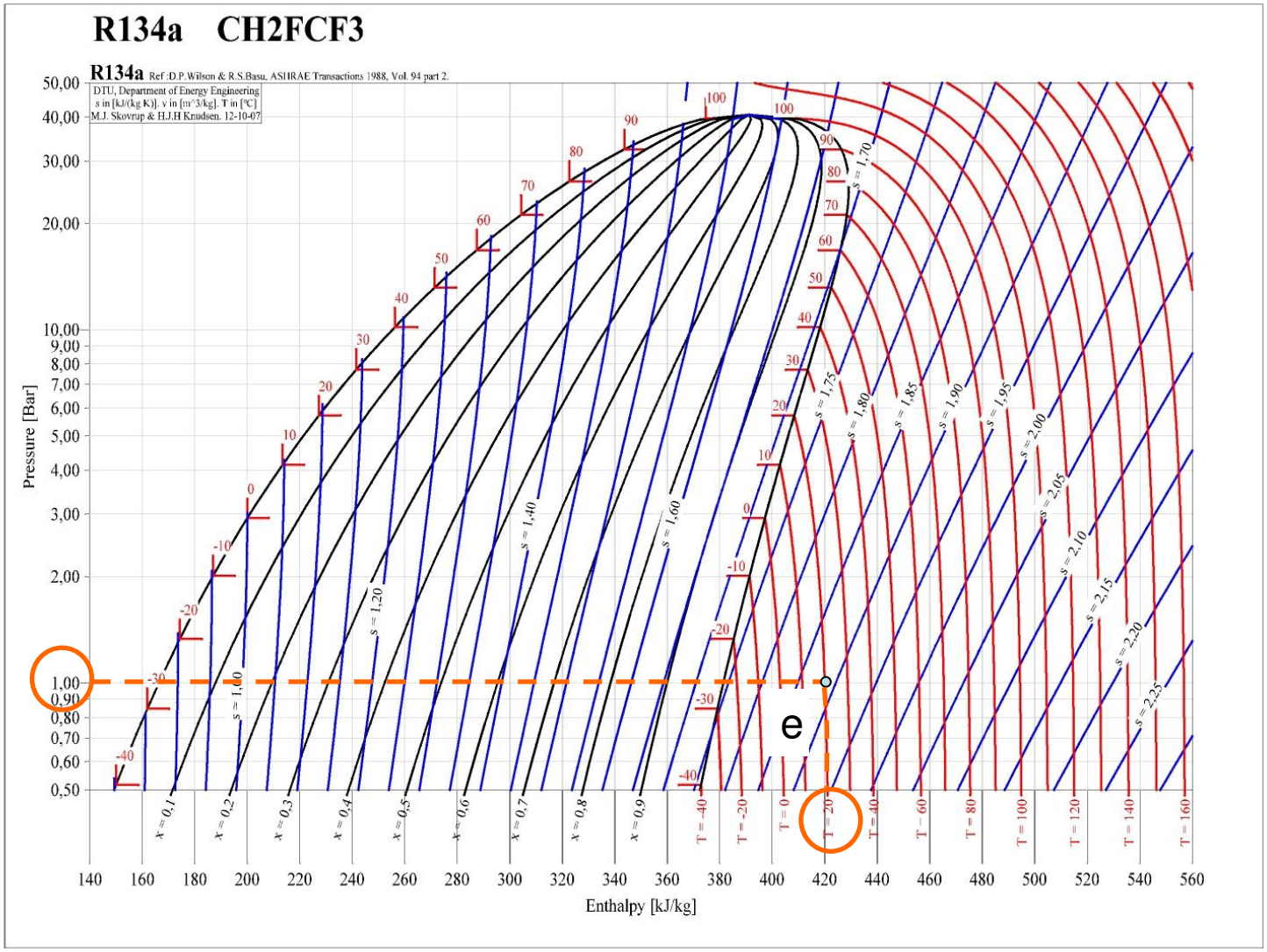


Diagramme thermodynamique (p,h) – w_i compression adiabatique réversible

Compression adiabatique réversible (= isentropique) jusqu'à P_s = 20 bars

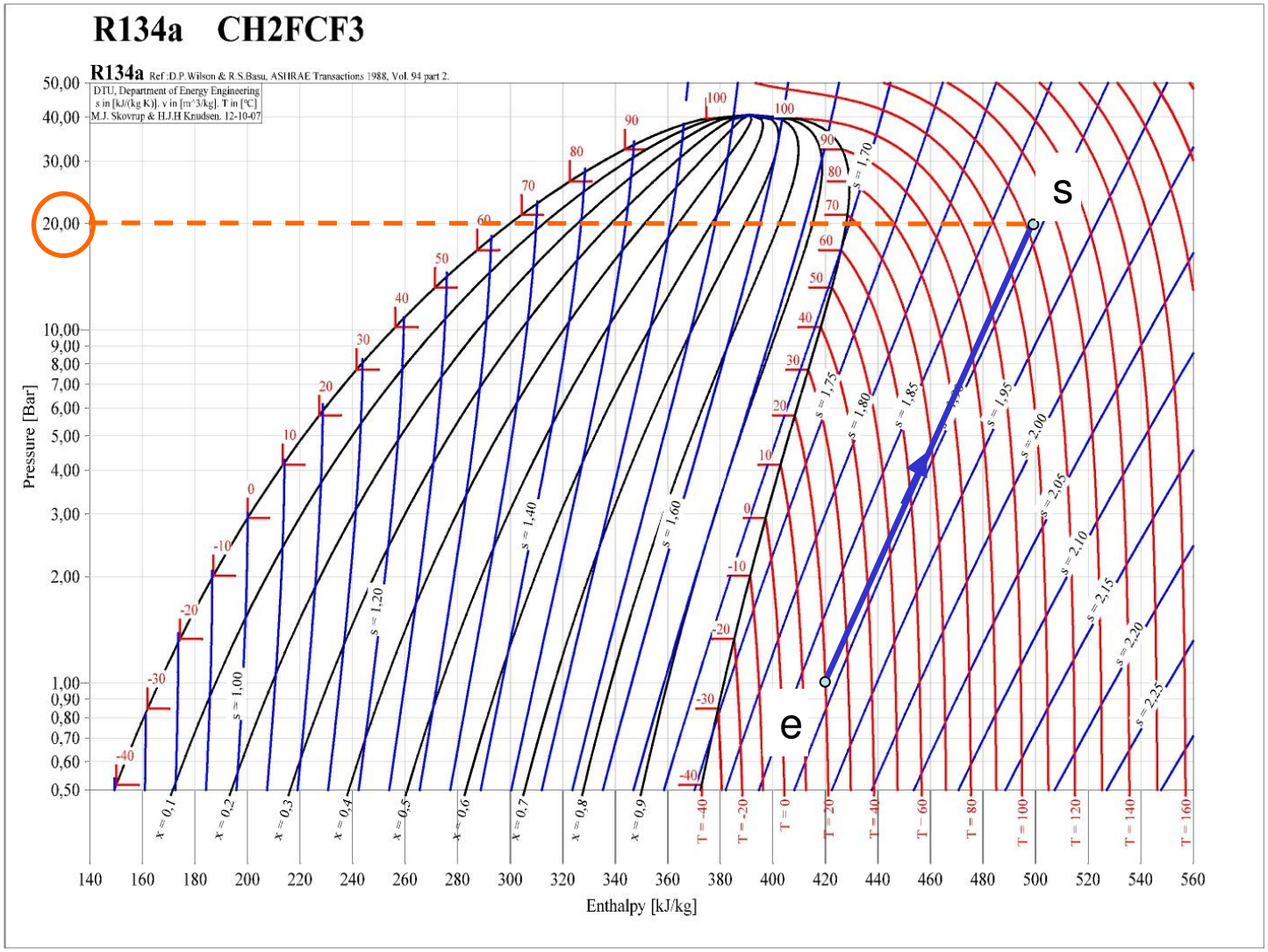


Diagramme thermodynamique (p,h) – w_i compression adiabatique réversible

Lecture de la température de sortie : $T_s \approx 125$ °C

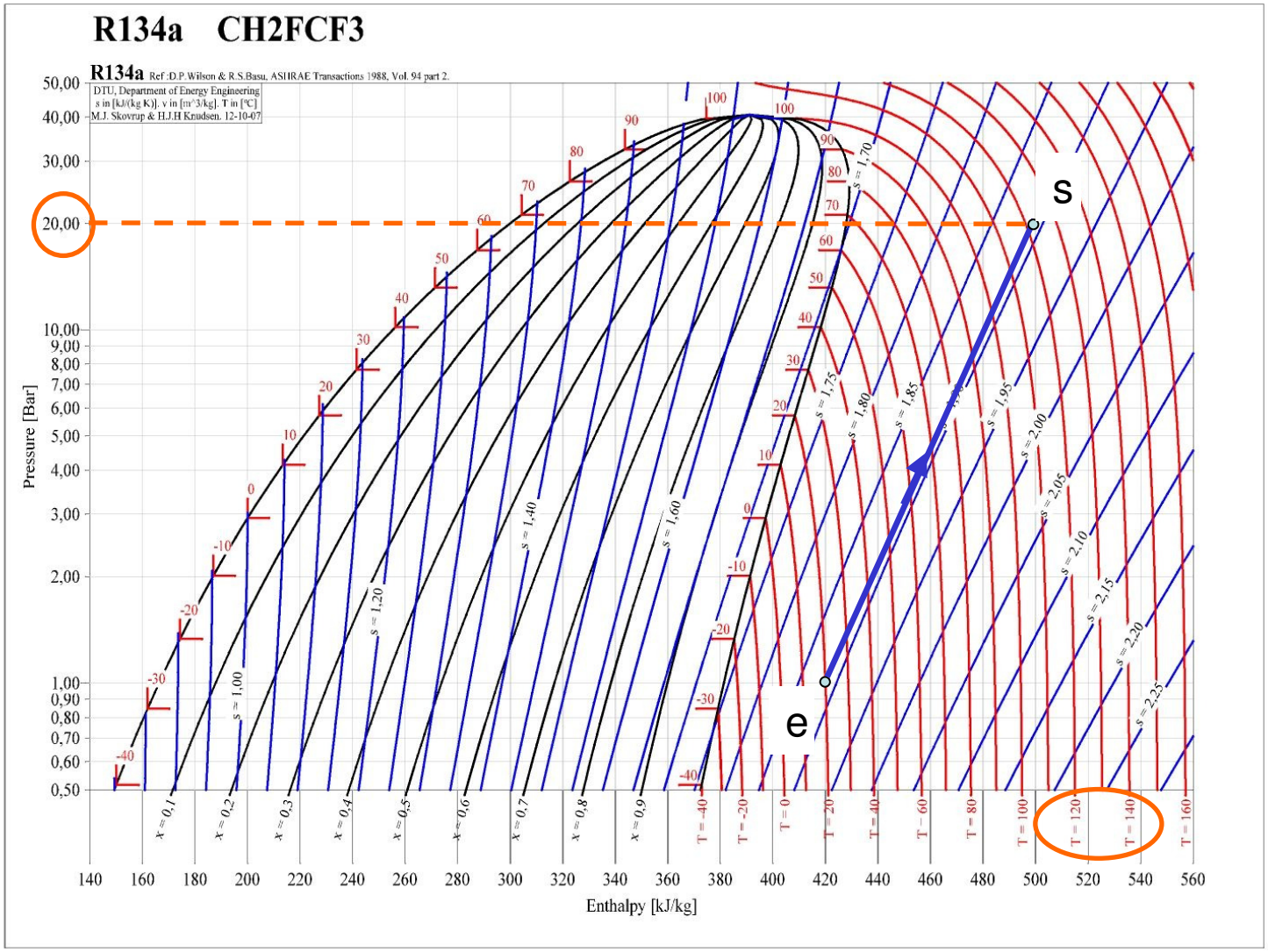
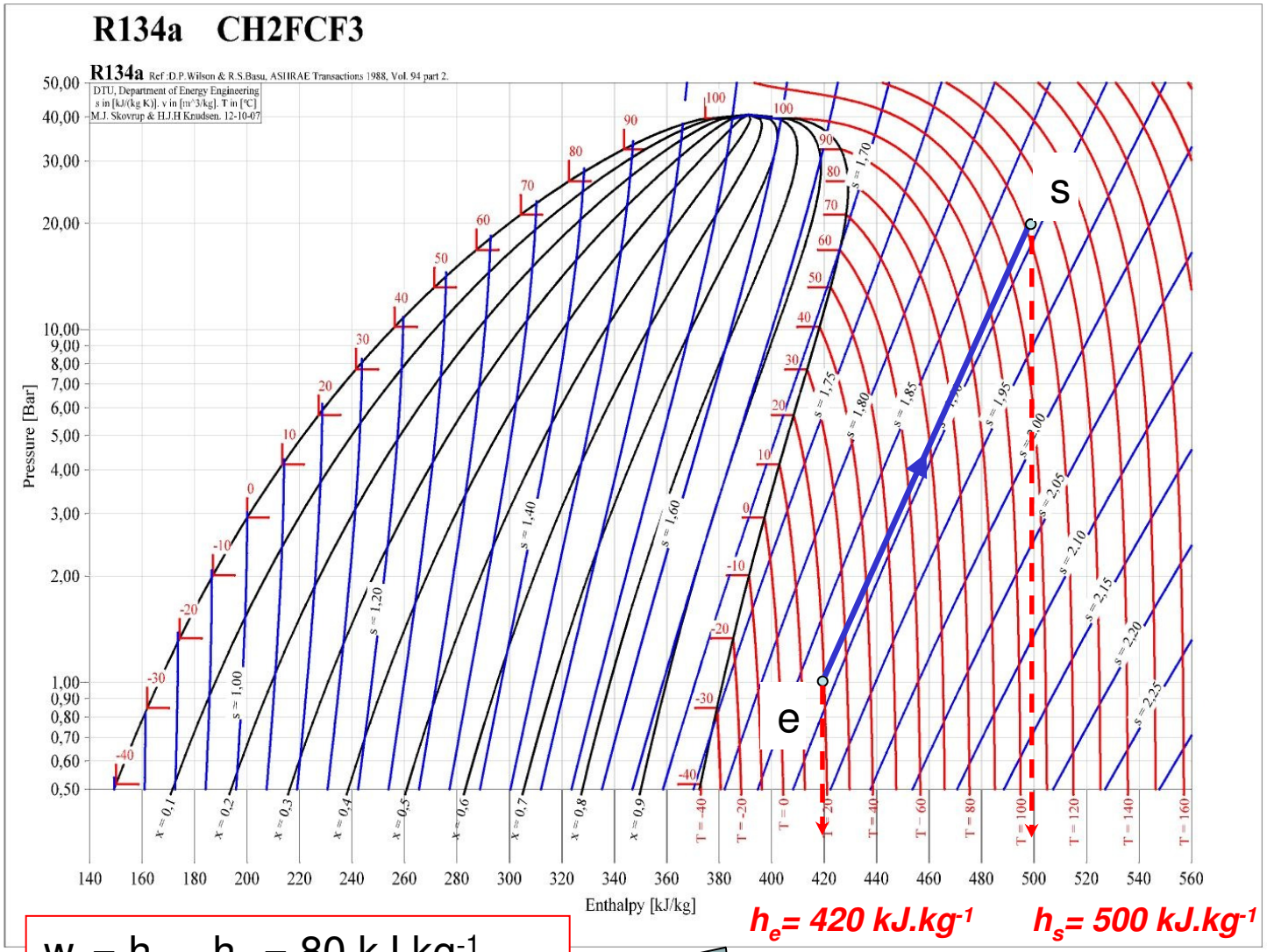


Diagramme thermodynamique (p,h) – w_i compression adiabatique réversible

Détermination du travail indiqué massique w_i



h_e= 420 kJ.kg^{-1} h_s= 500 kJ.kg^{-1}

$w_i = h_s - h_e = 80$ kJ.kg^{-1}