

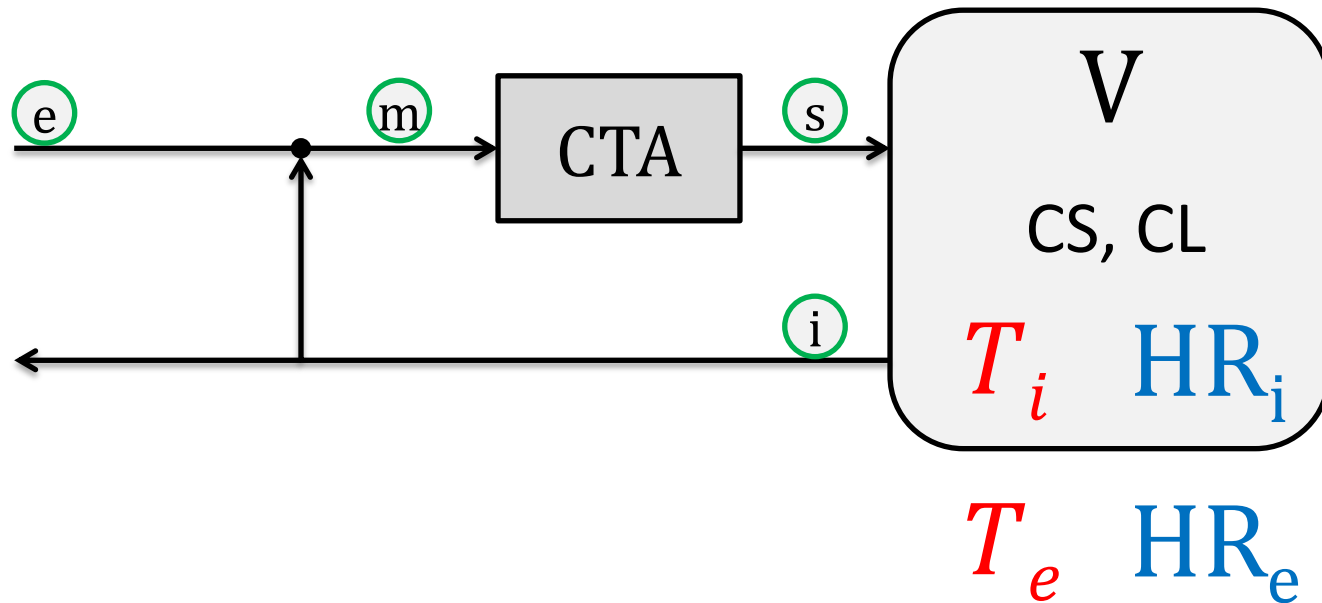
Cours de Génie Climatique

Vidéo n°4

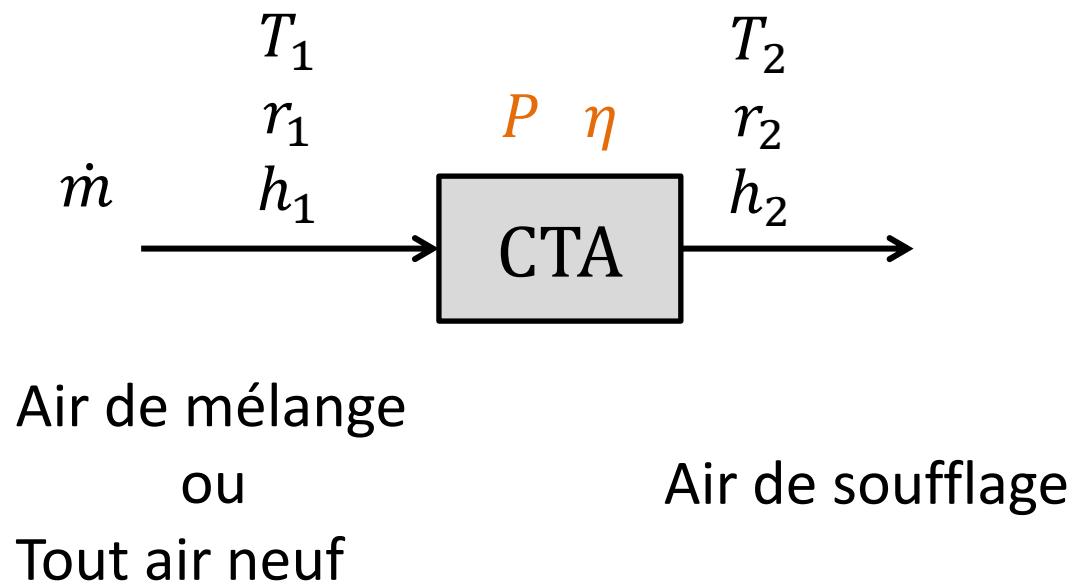
# CTA 2 : transformations

Simon Rouchier  
Maître de Conférences  
Polytech Annecy-Chambéry  
Université de Savoie

vidéo réalisée le 23/11/15



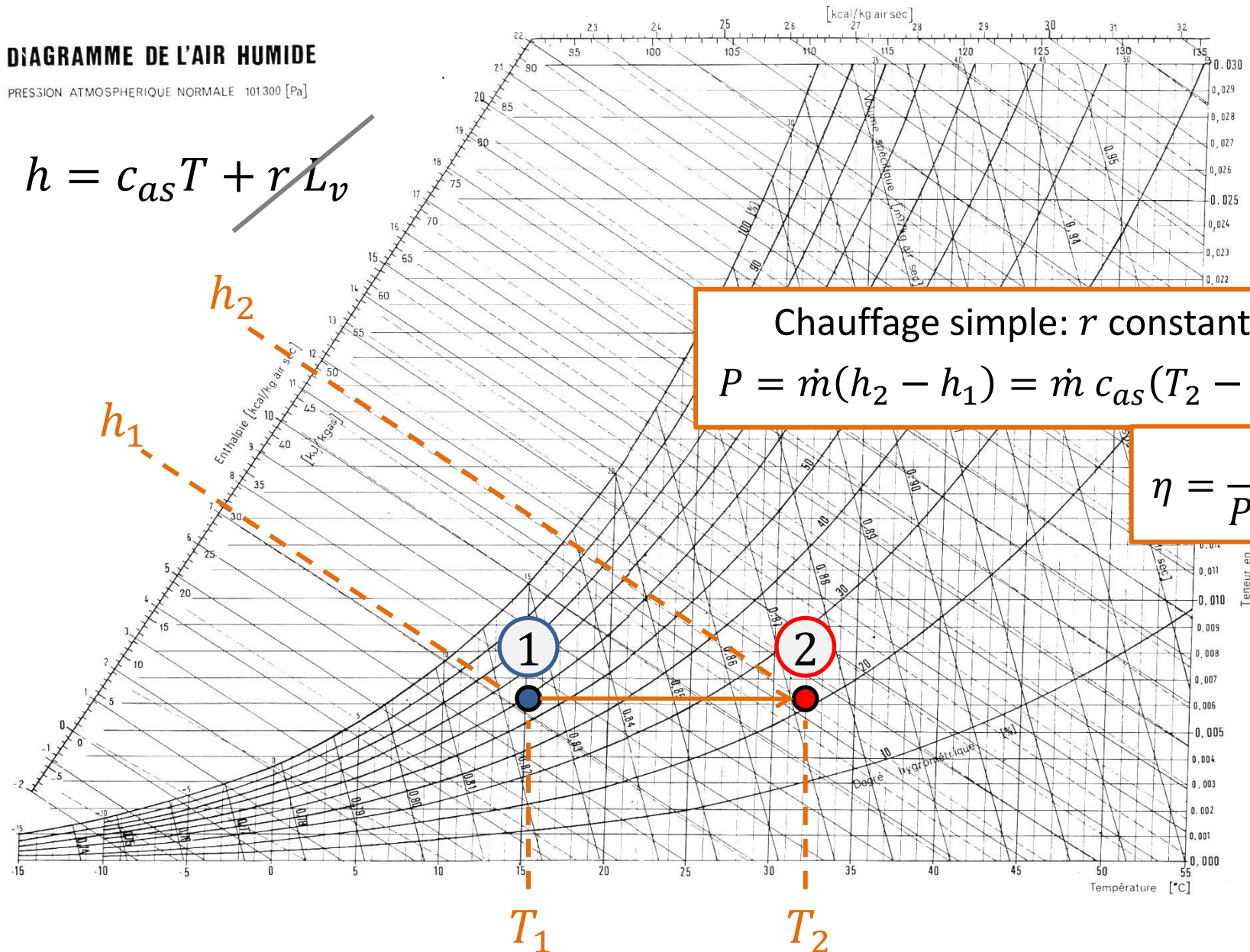
- |                            |   |                       |
|----------------------------|---|-----------------------|
| 1) Identifier les besoins  | → | CS, CL                |
| 2) Conditions de soufflage | → | $s$                   |
| 3) Dimensionner la CTA     | → | $m \rightarrow s$     |
| 4) Proportions du mélange  | → | $e + i \rightarrow m$ |



# DIAGRAMME DE L'AIR HUMIDE

PRESSION ATMOSPHERIQUE NORMALE 101300 [Pa]

$$h = c_{as}T + r L_v$$



Chauffage simple:  $r$  constant

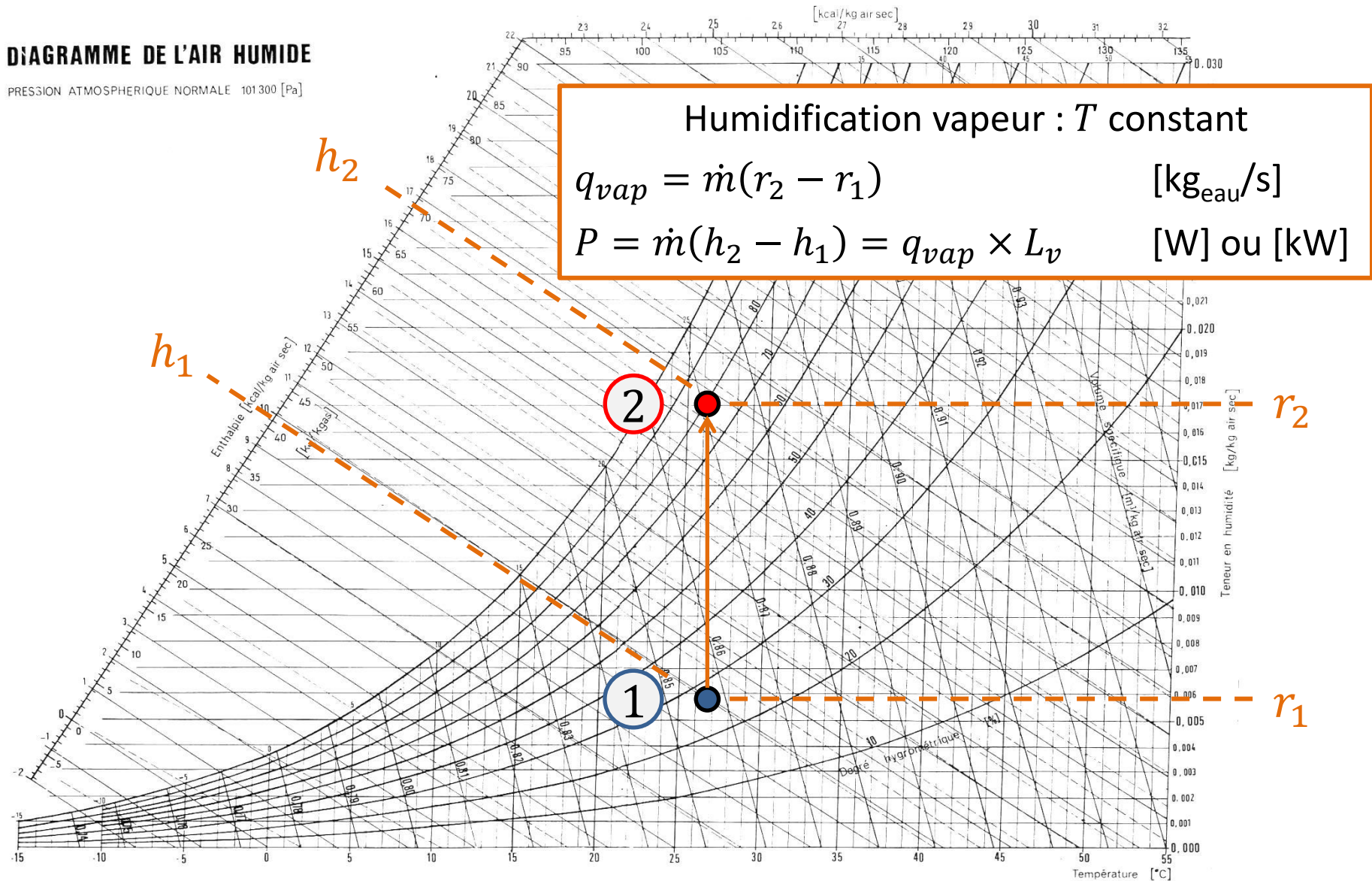
$$P = \dot{m}(h_2 - h_1) = \dot{m} c_{as}(T_2 - T_1)$$

$$\eta = \frac{P}{P_{elec}}$$



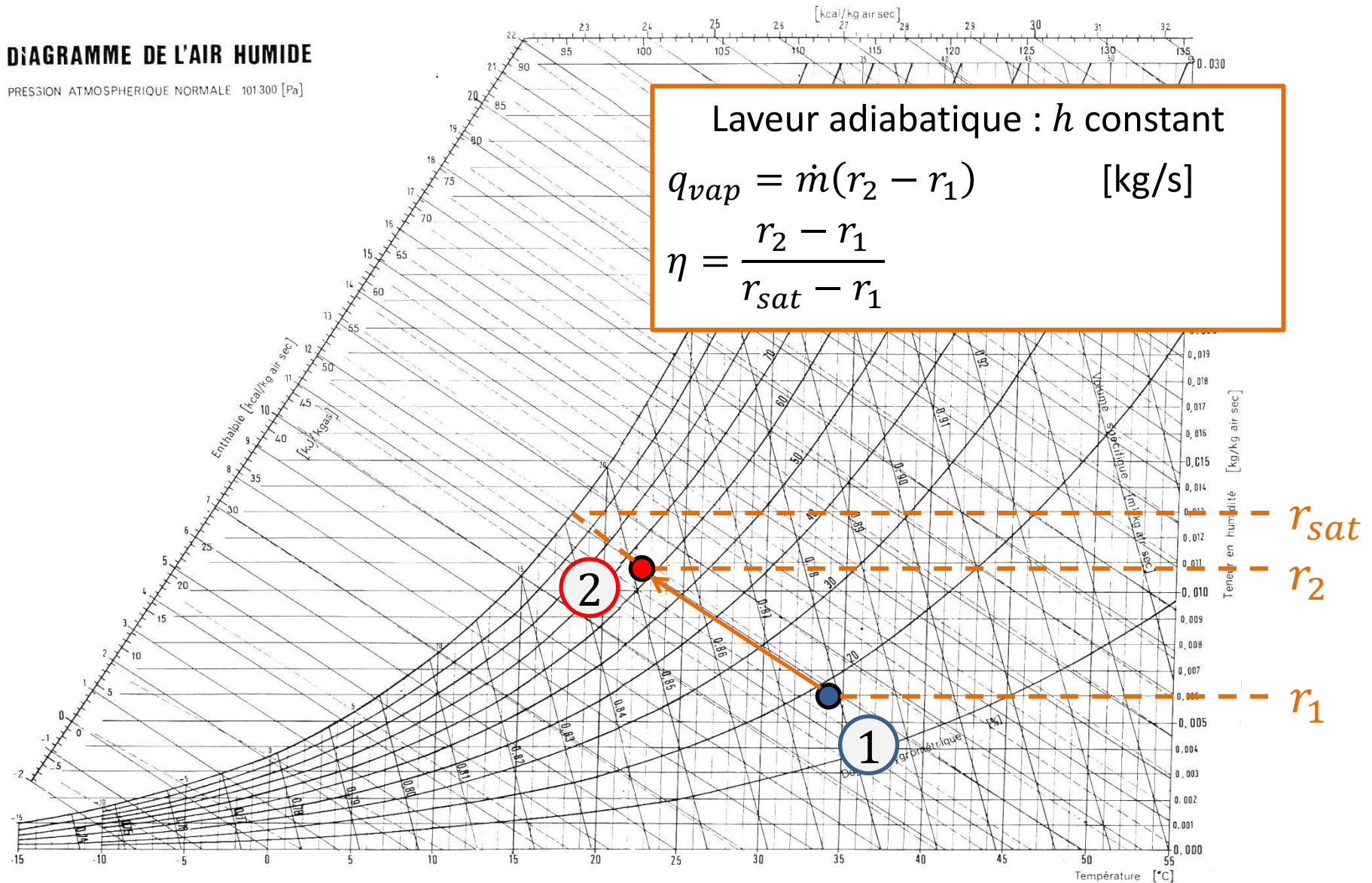
# DIAGRAMME DE L'AIR HUMIDE

PRESSION ATMOSPHERIQUE NORMALE 101300 [Pa]



## DIAGRAMME DE L'AIR HUMIDE

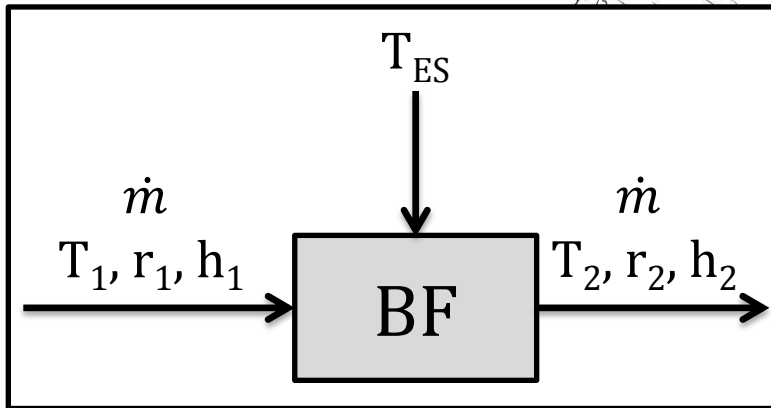
PRESSION ATMOSPHERIQUE NORMALE 101300 [Pa]





## DIAGRAMME DE L'AIR HUMIDE

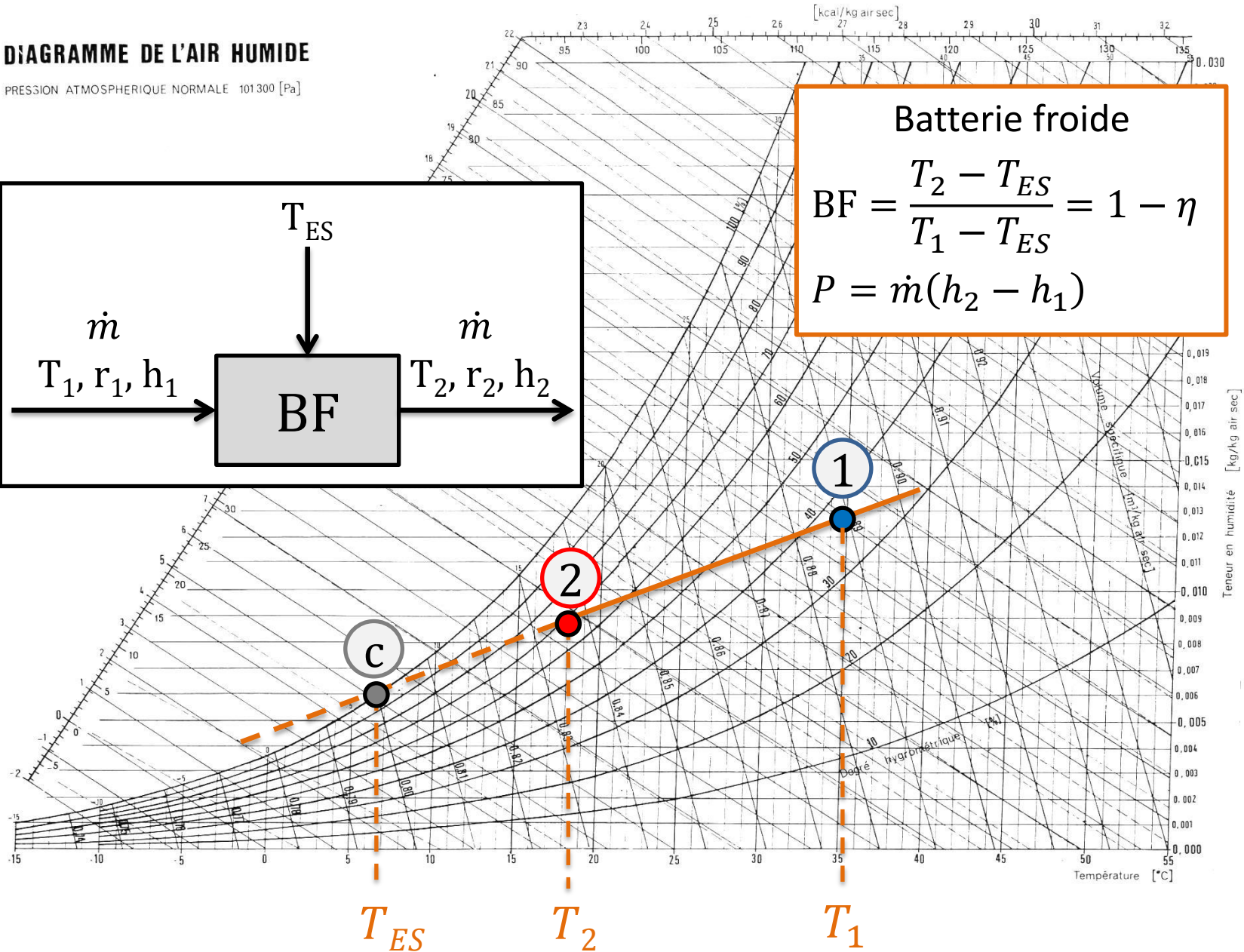
PRESSION ATMOSPHERIQUE NORMALE 101 300 [Pa]

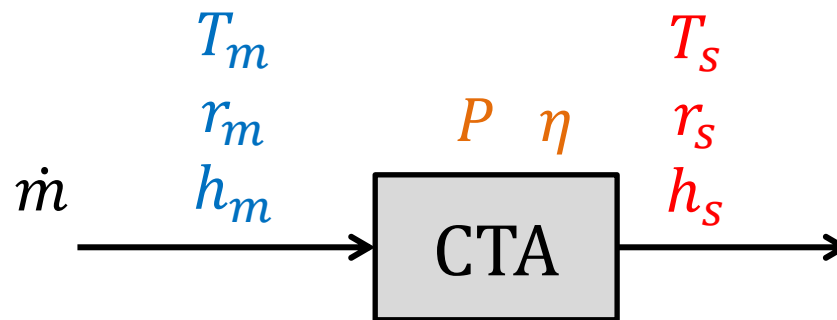


**Batterie froide**

$$BF = \frac{T_2 - T_{ES}}{T_1 - T_{ES}} = 1 - \eta$$

$$P = \dot{m}(h_2 - h_1)$$





Air de mélange  $m$

ou

Tout air neuf  $e$



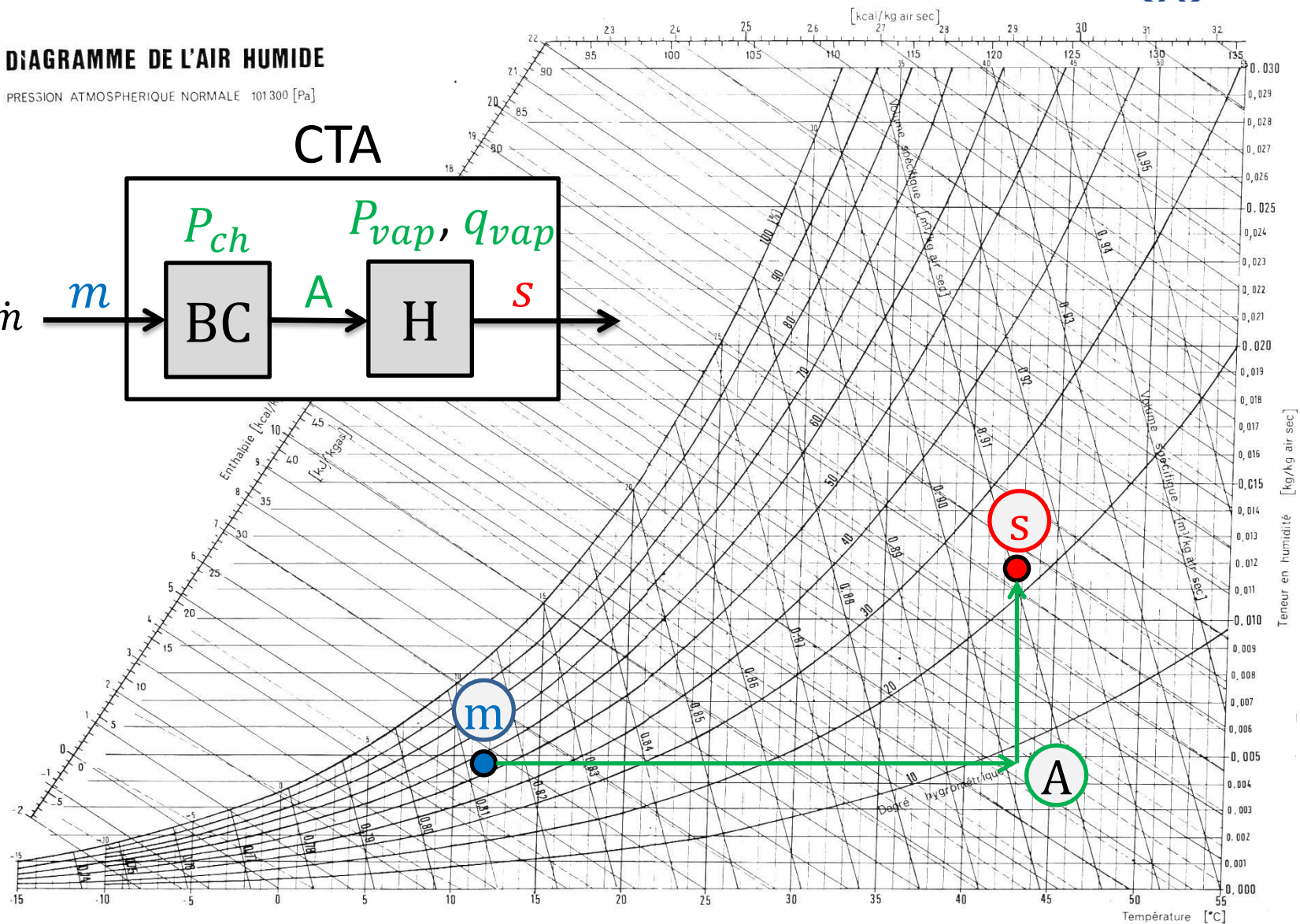
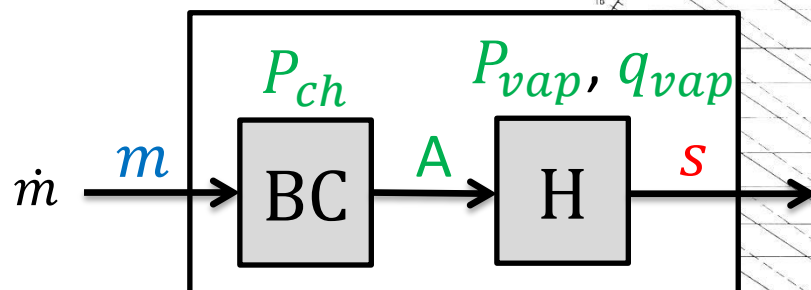
Air de soufflage  $s$



# DIAGRAMME DE L'AIR HUMIDE

PRESSION ATMOSPHERIQUE NORMALE 101300 [Pa]

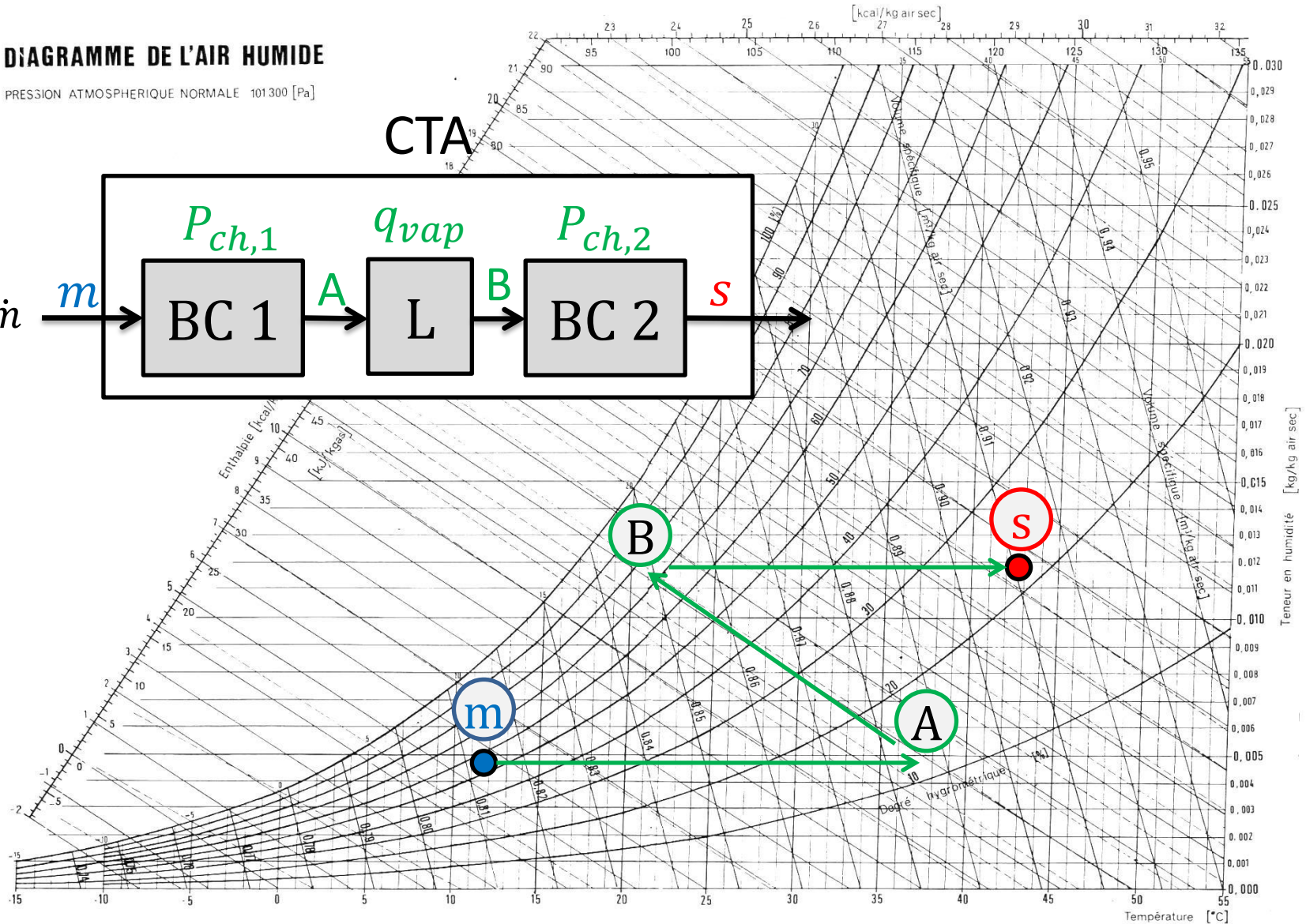
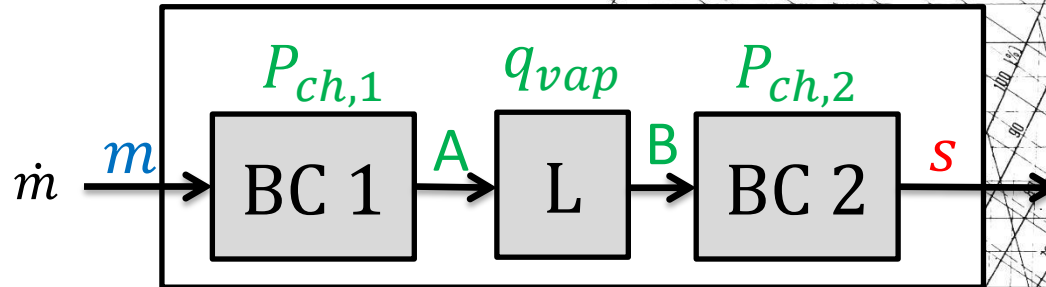
CTA



# DIAGRAMME DE L'AIR HUMIDE

PRESSION ATMOSPHERIQUE NORMALE 101300 [Pa]

CTA

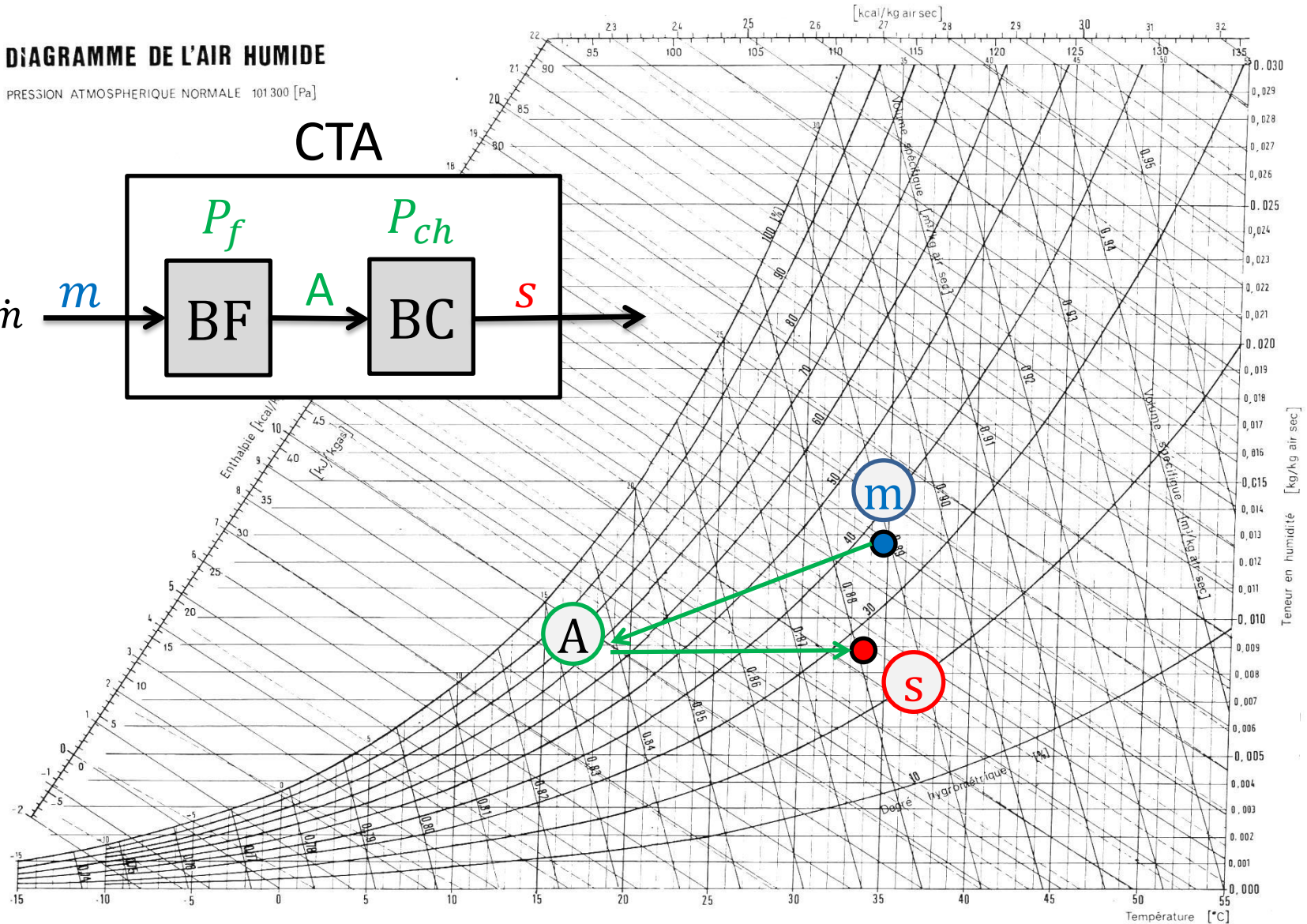
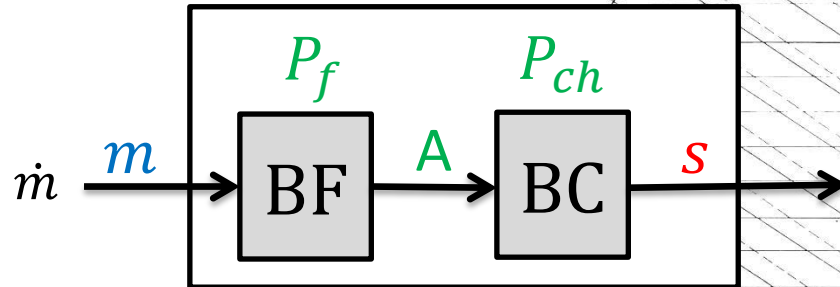


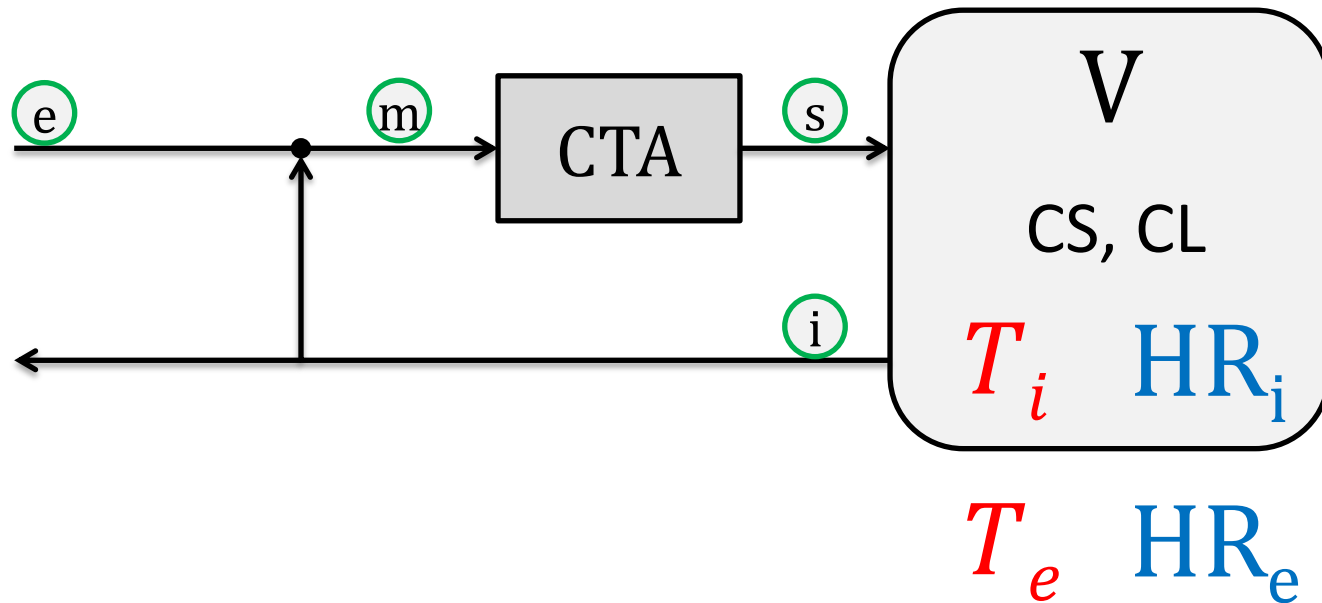


# DIAGRAMME DE L'AIR HUMIDE

PRESSION ATMOSPHERIQUE NORMALE 101300 [Pa]

CTA





- |                            |   |                       |
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