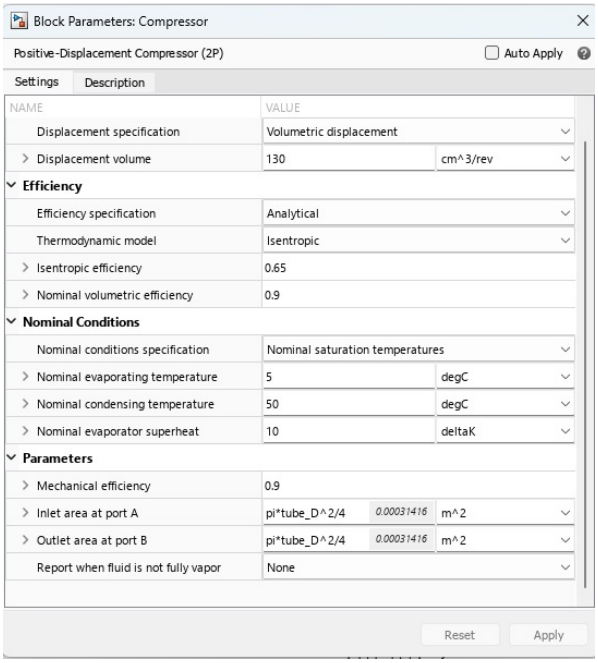
Additional Information | Albatross Energetics PS

Compressor Modeling:

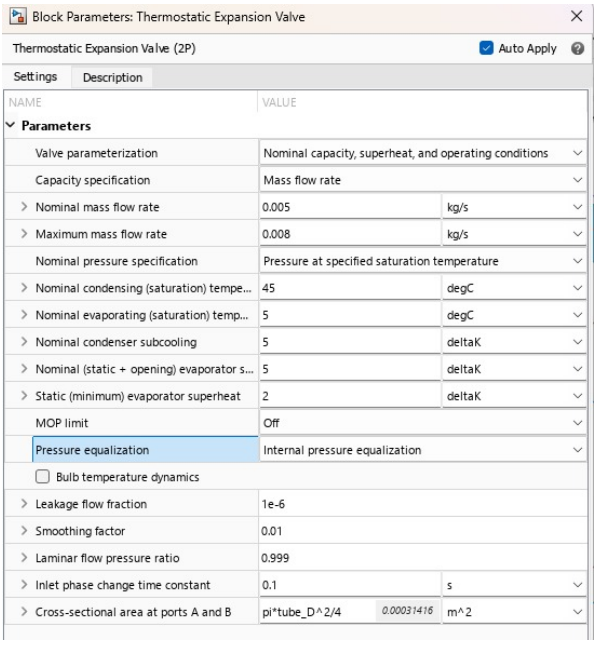


- Nominal Volumetric Efficiency: **95%**
- Mechanical Efficiency: **92%**
- Nominal Evaporating Temperature: **5°C**
- Nominal Evaporator Superheat: **10K**
- Nominal Condensing Temperature: **50°C**
- Nominal Condenser Subcooling: **0K**
- Inlet Area (Stub Suction - 3/4″ Dia): **2.85 cm²**

- Outlet Area (Stub Discharge - 1/2″ Dia): **1.27 cm²**
- Nominal Speed: **2900 RPM**

	Scroll Compressor 1	**Scroll Compressor 2**	**Scroll Compressor 3**	**Scroll Compressor 4**
Suitable Refrigerants	R290	R134a, R407C, R513A, R454C, R1234yf	R134a, R407C, R450A, R513A	R410A
Isentropic Efficiency (%)	68.4%	68.8%, 69.1%, 67.5%, 67.9%, 64.8%	63.9%, 65.3%, 65.6%, 65.8%	65.1%
Displacement (at 50Hz, in cm^3/rev)	33.1	45.5	33.1	22.8

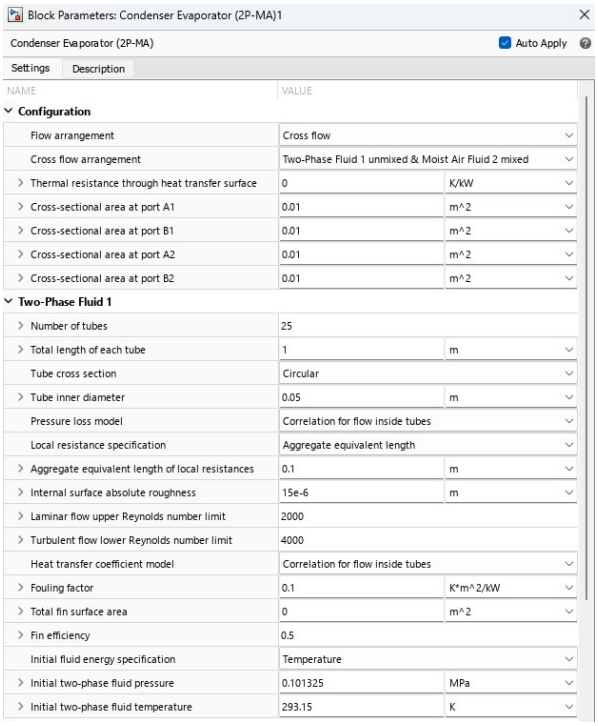
Expansion Device Modeling:

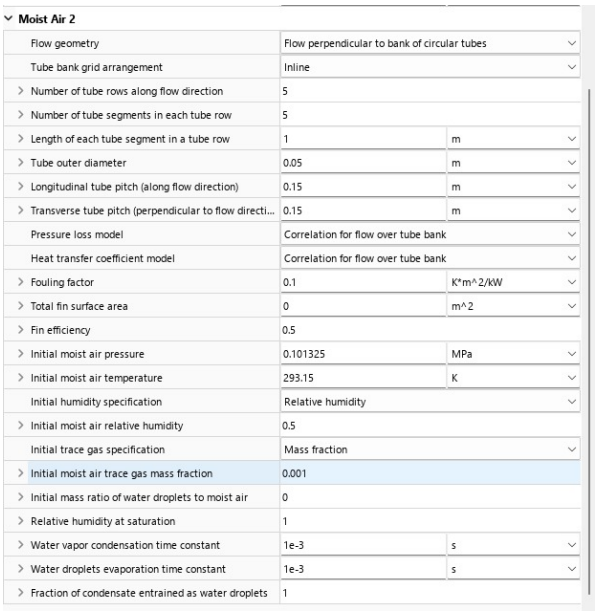


- Nominal Mass Flow Rate = Volume Flow Rate x Nominal Density *(use the density of the superheated refrigerant entering the compressor at nominal conditions)*
- Nominal Evaporating Temperature: **5°C**
- Nominal (Static + Opening) Evaporator Superheat: **10K**
- Nominal Condensing Temperature: **50°C**
- Nominal Condenser Subcooling: **0K**
- Static (Minimum) Evaporator Superheat: **2K**
- Maximum Mass Flow Rate = Volume Flow Rate x Maximum Density *(you may use the density of the superheated refrigerant entering the compressor at high load conditions)*

Use default values for leakage flow fraction, smoothing factor, laminar flow pressure ratio, inlet phase change time constant.

Evaporator/Condenser Modeling:





- Flow Arrangement: Cross-flow *(usually the case for fin-tube heat exchangers)*
- Two-Phase Fluid 1
  - Fin here means the fin in contact with the refrigerant - note that certain tubes may have fins internally. Image 1, Image 2
  - Usually in air conditioners, copper tubes used has no internal fins - in which case, total fin surface area = 0.
  - Fouling Factor: **0.1 K-m²/kW**
  - Fin Efficiency: **75%**
- Moist Air 2
  - Fin here means the fin in contact with the air.
  - Fouling Factor: **0.1 K-m²/kW**
  - Fin Efficiency: **75%**

Use default values for internal surface absolute roughness, laminar flow upper Reynold's number limit, turbulent flow lower Reynold's number limit, water vapor condensation time constant, water droplet evaporation time constant.