



CGAM 20-170

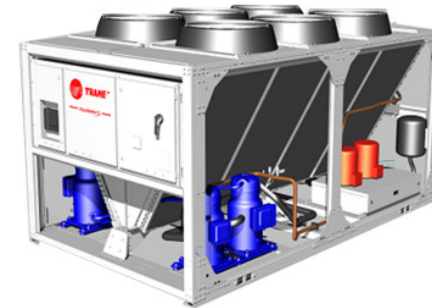
Section 1 – Product Overview



- **Introduction**
- **Product range**
- **Unit operating map**
- **Options**
- **Refrigerant cycle**

- Product Scope – overall product line
 - **Air-cooled Cooling & Heat pump**
 - **20-170 tons – 23 sizes – 248 models**
 - **2 Efficiencies : High - Standard**
 - **3 noise levels : Compact – Super Quiet – CA Package**
 - **R410A Scroll compressors**
 - **Brazed Plate Evaporators**
 - **Electronic Expansion Valves**
 - **CH530 controls**
 - **3 Unit platforms : Slant , V & W**
 - **3 Manufacturing locations: Pueblo, Taicang, Golbey/Charmes**

- **Design step : 1Q2009**



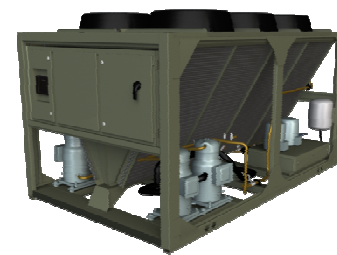
20 – 50 ton “slant” (50-140kW)

- Single circuit
- 2 compressors



40 – 100 ton “V” (115-285kW)

- Dual circuit 4 compressors



110 – 170 ton “W” (300-450kW)

- Dual circuit
- 4 – 6 compressors



- Slant Units
 - Single circuit
 - 8 sizes
 - 2 frames : 2 & 3 fans
 - HE units : 20 to 35 tons; 5 sizes
 - SE units : 20 to 50 tons; 8 sizes



# of Circuits	Comp. Manifold	Size	Configuration														
			HE CO LN 60	HE CO SN 50	HE HP SN 50	HE CO HD 50	HE HP HD 50	HE CO LN 50	HE HP LN 50	SE CO SN 50	SE HP SN 50	SE CO HD 50	SE HP HD 50	SE CO LN 50	SE HP LN 50		
1	10	10	20	Slant Frame 1													
1	10	13	23	Slant Frame 1													
1	13	13	26	Slant Frame 2													
1	15	15	30	Slant Frame 2													
1	15	20	35	Slant Frame 2													
1	20	20	39	Slant Frame 2													
1	20	25	45	Slant Frame 2													
1	25	25	50	Slant Frame 2													

- V Units
 - Dual circuits
 - 2 frames : 4 & 6 fans
 - HE : 40 to 70 tons : 5 sizes
 - SE : 40 to 100 tons : 8 Sizes



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# of Circuits	Comp.	Manifold	Size	HE	HE	HE	HE	HE	HE	SE	SE	SE	SE	SE	SE
				CO	CO	HP	CO	HP	CO	HP	CO	HP	CO	HP	CO
				LN	SN	SN	HD	HD	LN	SN	SN	HD	HD	LN	LN
				60	50	50	50	50	50	50	50	50	50	50	50
2	10	10	40	V Frame 1											
2	10	13	46	V Frame 1											
2	13	13	52	V Frame 1											
2	15	15	60	V Frame 1											
2	15	20	70	V Frame 1											
2	20	20	80	V Frame 1											
2	20	25	90	V Frame 1											
2	25	25	100	V Frame 1											

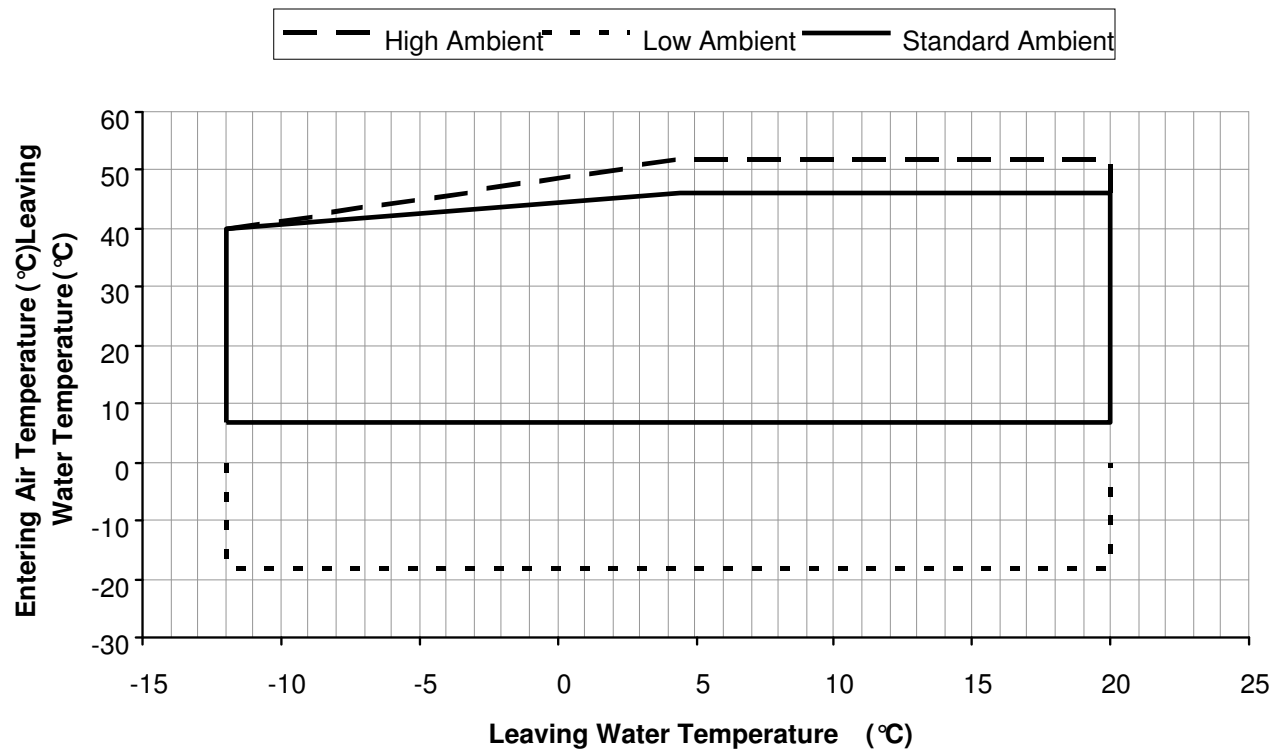
- W Units
 - Dual circuits
 - 4 frames : 6 , 8 , 10 & 12 fans
 - from 80 to 170 tons : 9 sizes



Unit Operating Map

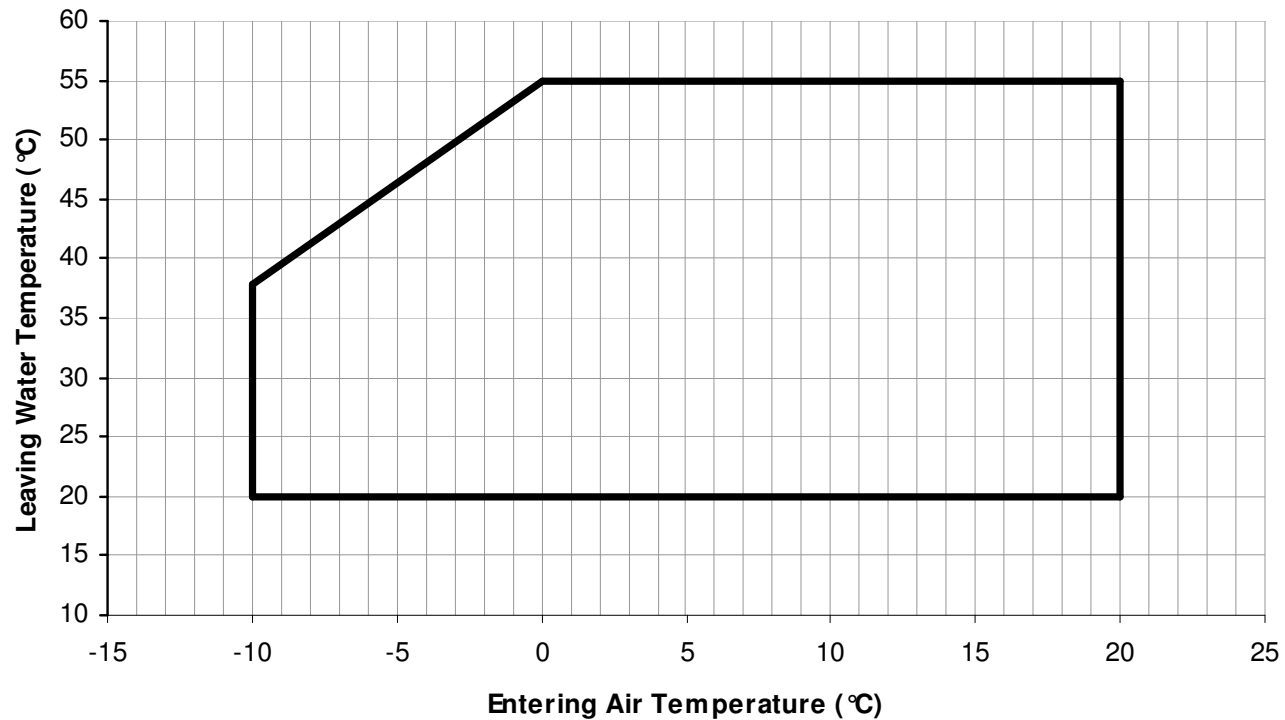
- CGAM**

Fan control	CGAM		
	Low ambient	Standard ambient	High Ambient
Min. outdoor air temperature	-18°C	7°C	7°C
Max. outdoor air temperature	+46°C	+46°C	+52°C
Min. leaving water temperature	-12°C	-12°C	-12°C
Max. leaving water temperature	+20°C	+20°C	+20°C

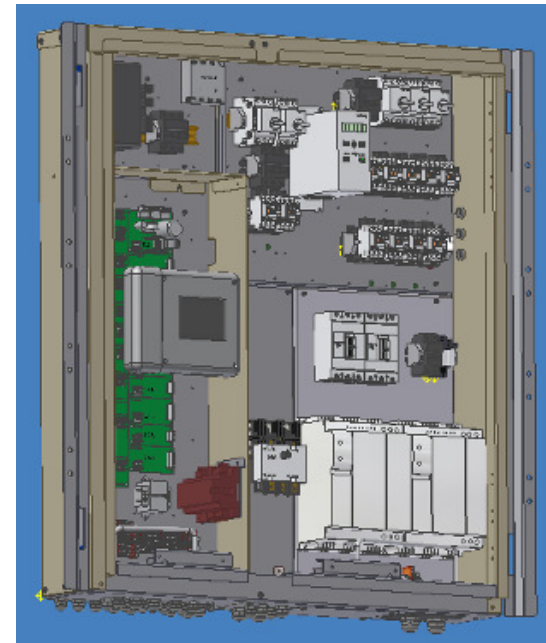


- CXAM - Heating mode**

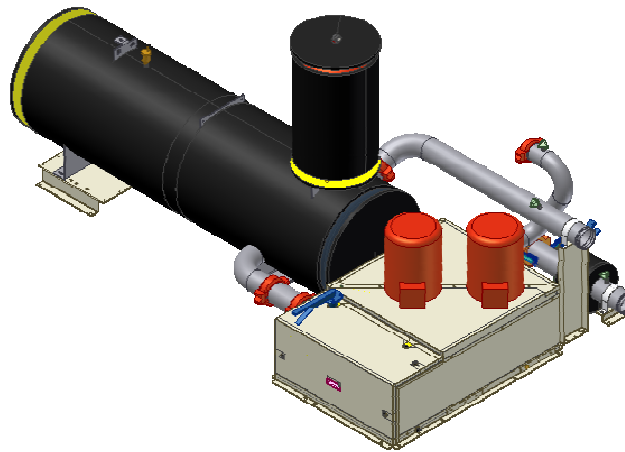
CXAM Heating	
Fan control	Standard ambient
Min. outdoor air temperature	-10 °C
Max. outdoor air temperature	+20 °C
Min. leaving water temperature	+55 °C
Max. leaving water temperature	+20 °C



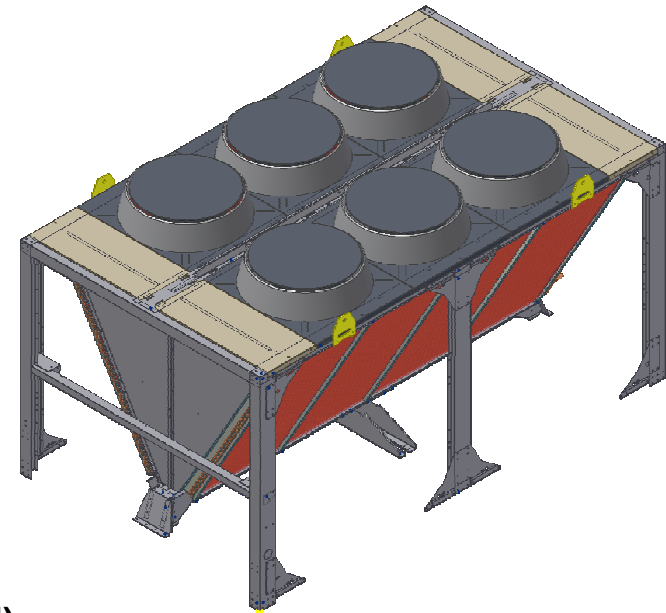
- **Voltage offering**
 - 400V-3PH-50Hz
 - -3PH-60Hz (Pueblo- Taicang)
- **Compressor Starters**
 - Solid state Soft Starter
 - Across the Line Starter
 - Power Starter correction
- **Power Options**
 - Mechanical disconnect



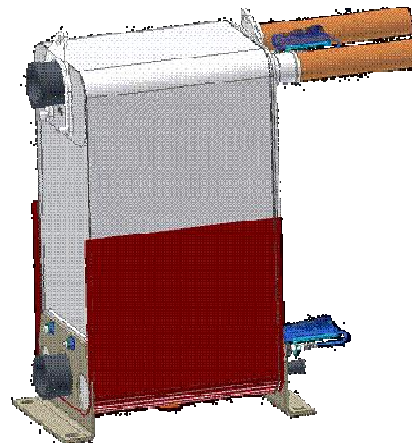
- **Pump package**
 - Without pump package
 - With pump package (standard & high head, single & dual pump motors)
 - With buffer tank (Two minutes minimum loop time for comfort cooling application)
 - Balancing valve / Variable speed drive
- **Water strainer**
 - With Water Strainer Factory Installed



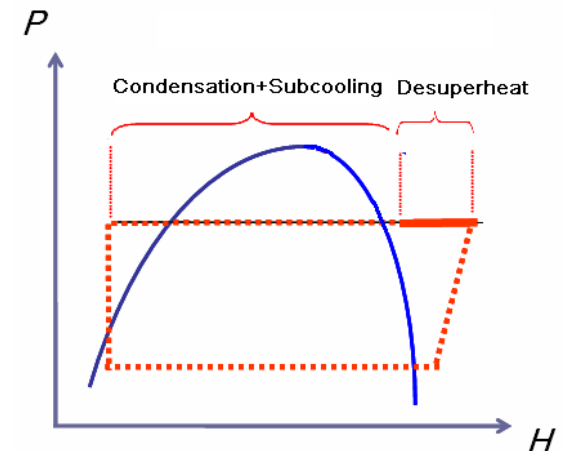
- **Evap applications:**
 - Standard cooling 5.5 to 18C
 - Low Temperature Processing 5.5 to -12 C
 - Ice making
- **Condenser applications:**
 - High ambient application 52C
 - Standard ambient application 46C
 - Low ambient application -18C
- **Condenser Fin Material**
 - Lanced Aluminum Fins
 - Non-Lanced Aluminum Fins
 - Non-Lanced Aluminum Fins w/Black Epoxy
 - Non-Lanced Aluminum Fins w/Blue Fin (CXAM)



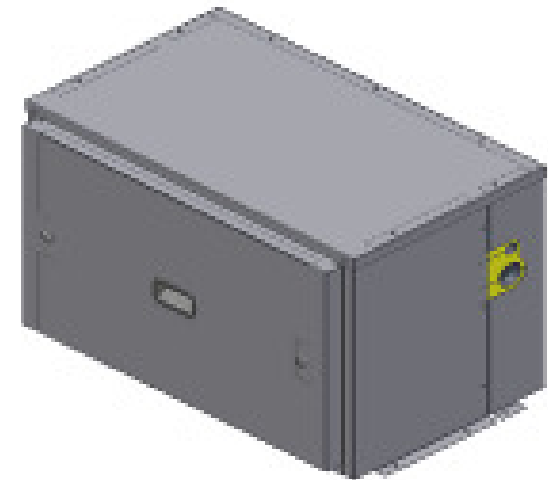
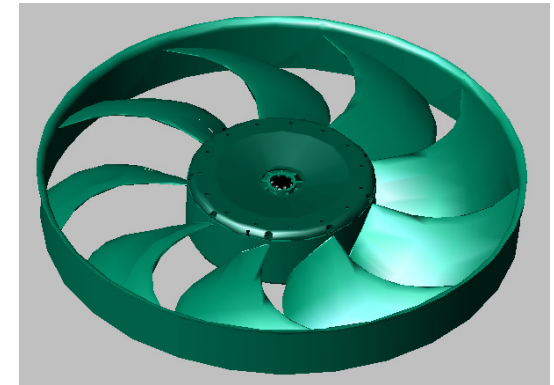
- **Refrigerant isolation valve**
 - Without discharge line and liquid line valve
- **Thermal refrigerant & water system Insulation**
 - Standard
- **Freeze Protection (Factory Installed Only)**
 - With/out Freeze Protection
 - With Freeze Protection (CH530 Control + heater)



- **Control Options**
 - LonTalk/BACNet
 - Time of day scheduling
 - External water & current limit setpoint
 - Ice-making relay input
 - Programmable relays
- **Factory Charge**
 - Full Factory Refrigerant charge (HFC-410A)
 - Nitrogen Charge
- **Condenser Heat Recovery**
 - No Heat Recovery
 - Partial Heat Recovery w/o Fan control
 - Full Heat Recovery



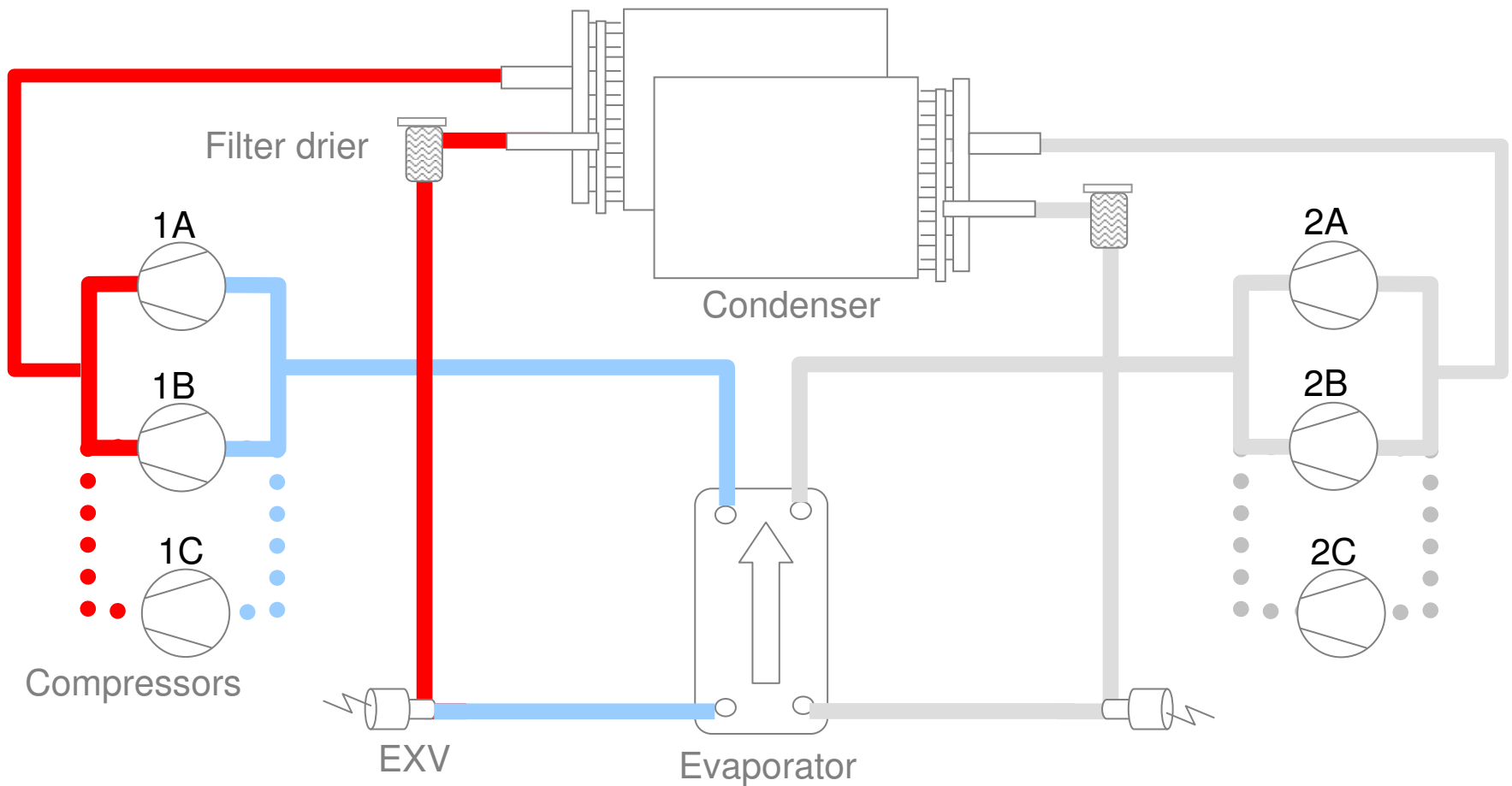
- **Low Noise Options**
 - **Compact**
 - **Super Quiet**
 - Compressor acoustic jacket
 - Quieter fan (same rpm)
 - **Comprehensive Acoustic Package**
 - Compressor acoustic box
 - Oversize condenser & reduce fan rpm



- **Installation Accessories**
 - Elastomeric Isolator
 - Neoprene Pads
- **Appearance Options**
 - No appearance options
 - Architectural louvered panels
 - Half louvers – Only for W unit
 - Access guards
 - Access guards and half louvers Only for W unit
- **Other Misc Options**
 - Flanged water connection (Victaulic is standard)

Refrigeration Circuit Layout

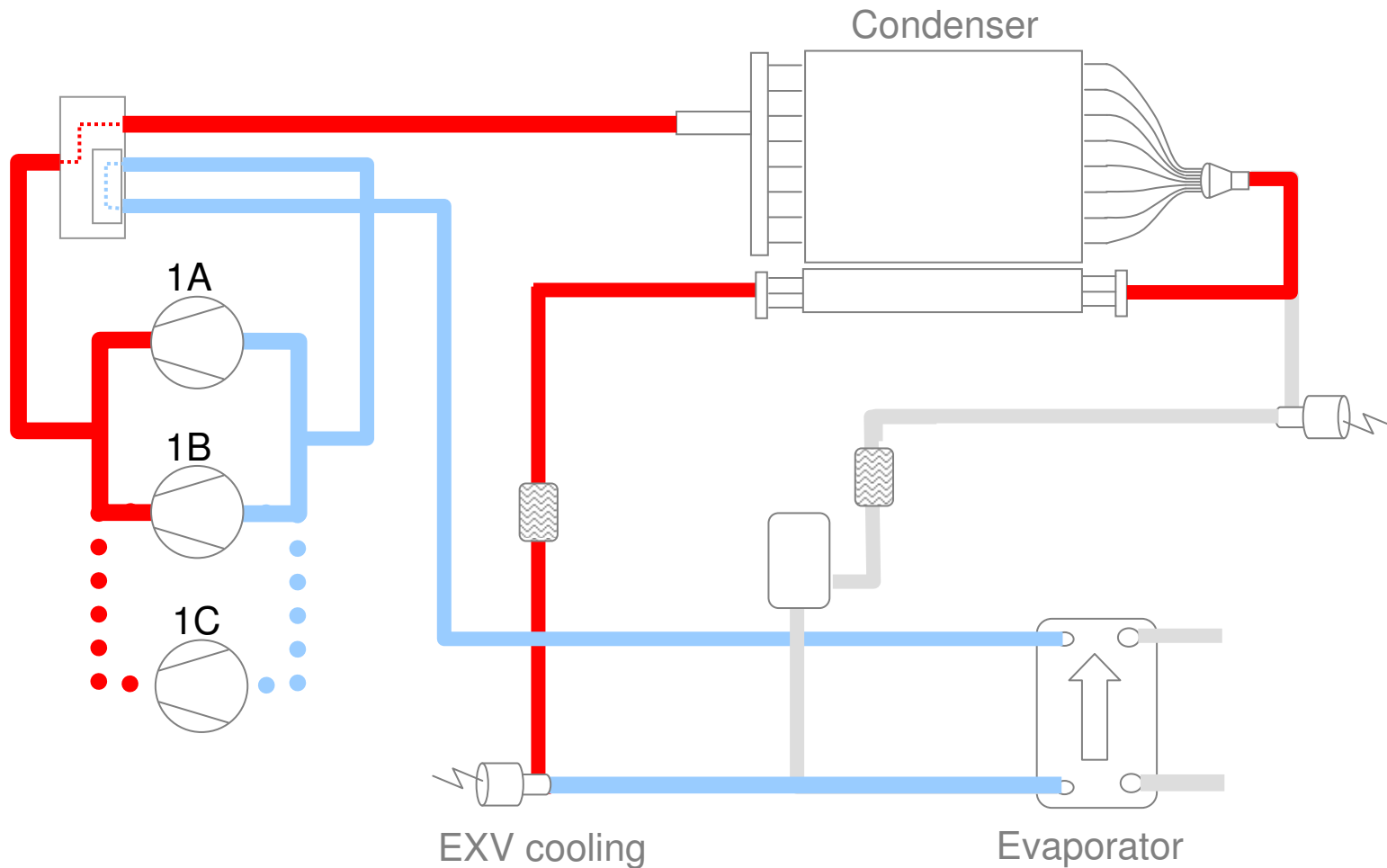
- CGAM**



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Refrigeration Circuit Layout

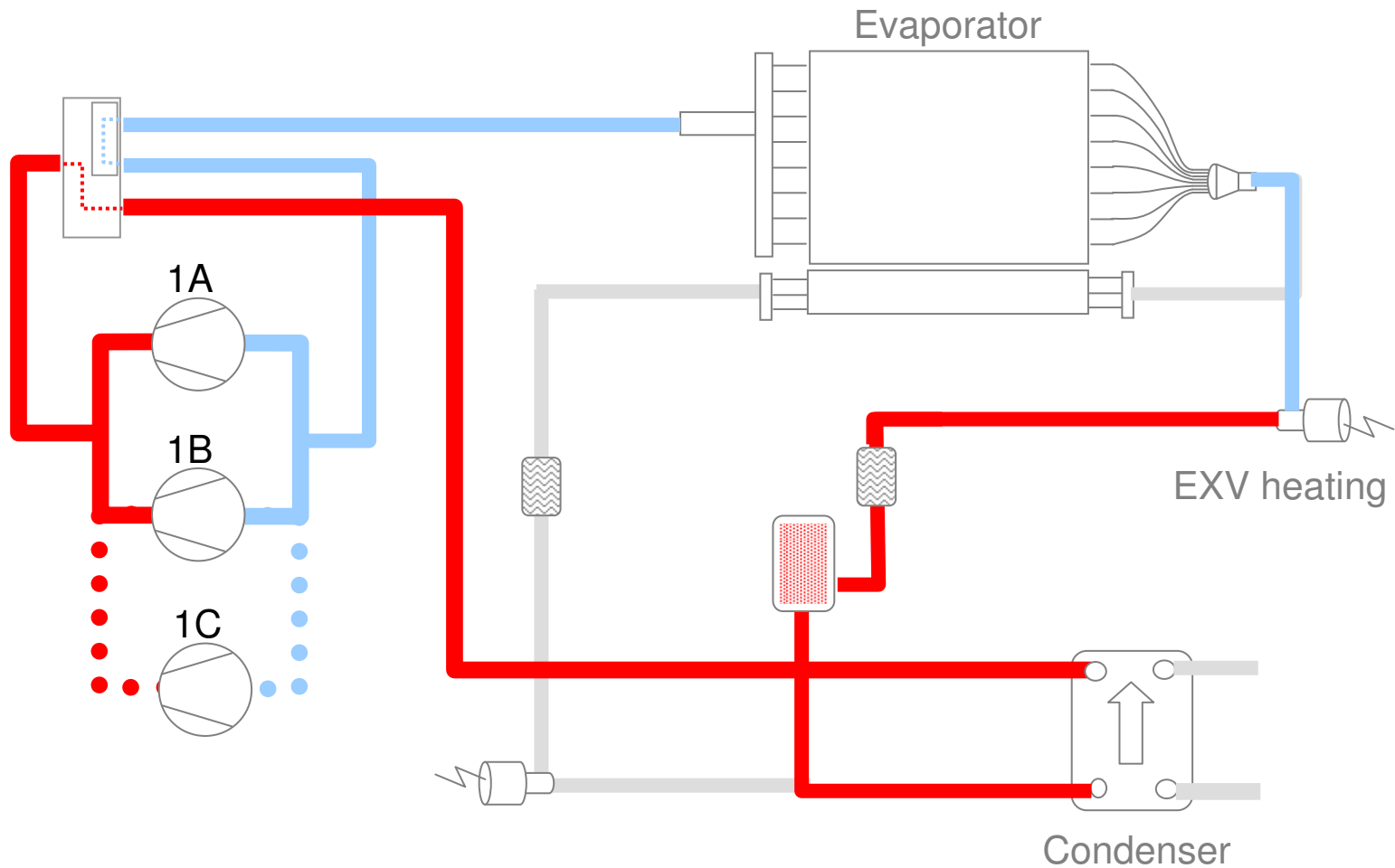
- **CXAM** – Cooling (dedicated subcooler)



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Refrigeration Circuit Layout

- **CXAM** – Heating (dedicated subcooler)





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