PRODUCT SHEET

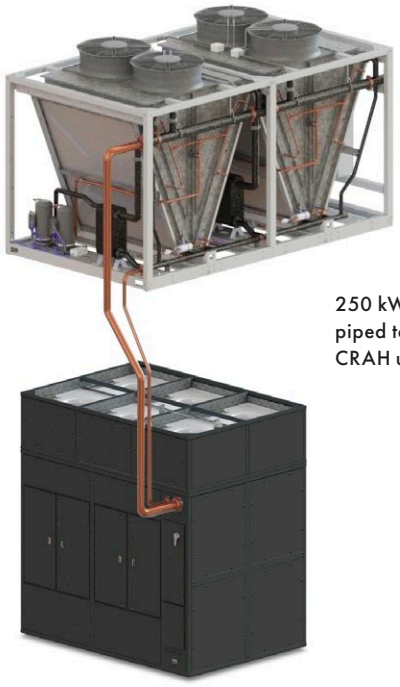
Munters SyCool® Split - 250 kW

Indirect Economizer Thermosyphon Split-System

Munters SyCool Split provides an efficient cooling solution for new and retrofit installations where access to a suitable water supply may be limited, expensive or unreliable.

Advantages

- Split system eliminates duct penetrations
- No water consumption
- High-efficiency economization
- Factory-optimized controls



250 kW Condenser piped to 250 kW CRAH unit

The system nominal cooling capacity is 250 kW. Thermosyphon heat exchangers move heat from the data center to ambient through the evaporation of liquid refrigerant in the SyCool evaporator, and condensing of the same refrigerant in the SyCool condenser. The evaporator is connected to the condenser with refrigerant piping allowing up to 500' of separation (see installation manual for specific fitting losses). As long as the condenser receives air cooler than the evaporator, heat is exchanged passively for "free cooling" of the data center. A simplified version of the system is schematically shown in Figure 1, right.

The SyCool 250 thermal effectiveness is nominally 65%, which greatly exceeds that of competing refrigerant based economizer systems. For example, with air delivered to servers at 75°F and a 20°F delta T across the servers, SyCool achieves 100% free cooling when the ambient dry bulb temperature is 62°F or lower (operating at 75% load). As ambient temperature rises, SyCool transitions from passive to active by staging/modulating compressors located in the condenser section. Data center heat is rejected by the thermosyphon, passively or actively without the need for diverting valves, allowing seamless transition from economizer to active cooling. As the ambient temperature approaches the temperature from the servers, SyCool finally loses free cooling capacity. **The high heat exchange effectiveness coupled with the ability to economize simultaneously with active refrigeration, yields best-in-industry economizer capture efficiency.**

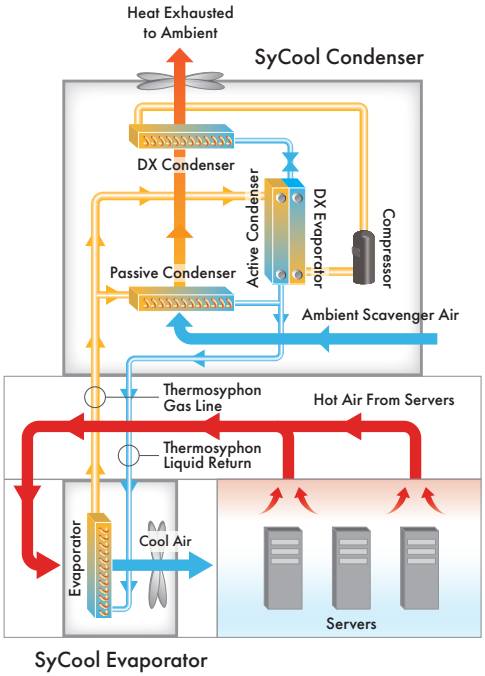


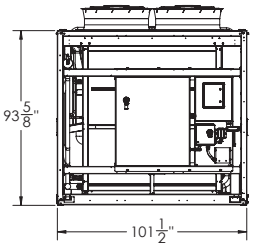
Figure 1

Munters SyCool® Split - 250 kW

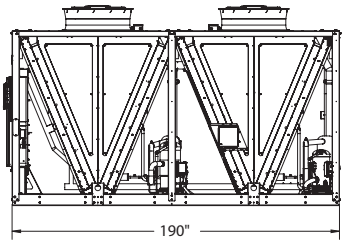
Indirect Economizer Thermosyphon Split-System

SyCool 250 kW condenser

- Connects to 250 kW Down Flow Evaporator
- Options for single or dual electrical feed(s) located at the condenser or evaporator
- Approximate weight: 7,000 lbs



Elevation view

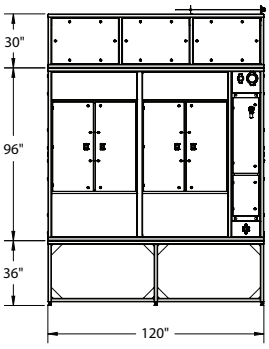


Elevation view - side

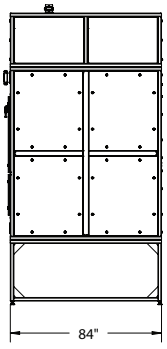
SyCool 250 kW down flow evaporator

- Underfloor or flooded room configurations
- Blow through or draw through fan arrangements
- Optional floor stand (36" shown)
- Approximate weight, excluding floor stand: 4,400 lbs

Bottom supply configuration



Elevation view - face



Elevation view - side

Horizontal supply configuration

System notes:

- Up to 500' separation
- Low pressure thermosyphon piping
- Refrigerant line sizes (per condenser):
  - One (1) 3" or 4" vapor line*
  - One (1) 1.625" or 2" liquid line*

*depending on interconnecting piping vertical and horizontal separation, plus # elbows

Munters SyCool® Split - 250 kW

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SyCool 250 kW down flow evaporator

	19 Deg. Delta T			20 Deg. Delta T			21 Deg. Delta T		
Ambient (Deg. F)	kW Capacity (Net)	Input Power (kW)	Peak pPUE	kW Capacity (Net)	Input Power (kW)	Peak pPUE	kW Capacity (Net)	Input Power (kW)	Peak pPUE
119.7	232	119	1.513	232	116	1.500	232	115	1.496
115	250	121	1.484	250	117	1.468	250	115	1.460
112.3	254	119	1.469	254	115	1.453	254	113	1.445
110	257	117	1.455	257	113	1.440	257	111	1.432
105	262	113	1.431	262	109	1.416	262	107	1.408
103.8	265	113	1.426	265	109	1.411	265	107	1.404

	22 Deg. Delta T			23 Deg. Delta T			24 Deg. Delta T		
Ambient (Deg. F)	kW Capacity (Net)	Input Power (kW)	Peak pPUE	kW Capacity (Net)	Input Power (kW)	Peak pPUE	kW Capacity (Net)	Input Power (kW)	Peak pPUE
119.7	232	114	1.491	232	112	1.483	232	111	1.478
115	250	113	1.452	250	112	1.448	250	111	1.444
112.3	254	111	1.437	254	110	1.433	254	108	1.425
110	257	109	1.424	257	108	1.420	257	106	1.412
105	262	105	1.401	262	103	1.393	262	102	1.389
103.8	265	105	1.396	265	103	1.389	265	102	1.385

Notes:
1000' elevation, 0.2" W.C. external static and clean filters, 75°F supply air

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