SyCool® ITC (patent pending) offers data centre owners and operators an energy efficient indirect cooling solution without the need for water.

- No Water Consumption
- Optimised for Containerised Shipping
- Passive Thermosyphon Heat Exchanger
- No Refrigerant Pump
- 250kW/500kW units
- Sustainable Cooling
- Fully Accessible Service Areas
- Global Availability
- Best-in-Class Dry Cooling
- Extensive Passive Mode

Significant energy savings compared to the best pumped refrigerant systems

Top of loop:
Cool scavenger ambient air condenses refrigerant that is returned to the evaporator by gravity.

Bottom of loop:
Warm data center air evaporates refrigerant that rises back up to the condenser. Circular flow of refrigerant naturally moves heat from bottom to top whenever scavenger air is cooler than process air.

Passive Mode: No moving parts associated with the heat rejection. * Extended passive mode range resulting from efficient thermosyphon.
Munters New Cooling Technology for Data Centres

 Thermosyphon Cooling

SyCool ITC rejects the heat from the data center using thermosyphon technology, which works by a combination of gravity and a syphon effect. The passive thermosyphon heat rejection cycle works without pumps and provides excellent economizing efficiency.

SyCool ITC uses an indirect economizer cycle that reduces the potential risk of contamination from air pollutants, as there is no outside air introduced for cooling.
Modes of Operation

Overview

Passive Mode

Active Mode

Future versions of SyCool will include in-room “Split Systems”, such as above-aisle modules and perimeter CRAH units, providing scalable cooling for new build and retrofit applications.

“Adding the SyCool ITC cooling solution to Munters’ portfolio, enables us to offer the industry a dry, indirect system that remains true to the Munters ethos of sustainability.” says Neil Yule President Business Area Data Centres.
With a capacity of 250kW, the P250 packaged system will be the first to market, offering a best-in-class dry cooling solution and boasting features such as high efficiency; oil-free & low pressure thermosyphon circuits; passive thermosyphon evaporator and condenser heat exchangers; zero water consumption and significant energy savings compared to the best pumped refrigerant systems currently available on the market.

The packaged AHU version of SyCool has been designed such that the units may be installed side-by-side with no space between, with all service access from the ends. Positioning an uninterrupted bank of packaged SyCool units along the perimeter of a data hall will provide class-leading levels of cooling output per linear metre of outside wall.

*Based on a P250 unit @ 80% utilization / 200kW Cooling power / 50,000 Sm3/h or 29,400Scfm / ESP 100Pa
Return temperature = 36°C - 97°F / Supply temperature = 24°C - 75°F

City | Region | Passive [hours] | Active [hours] | Annual use 200k [kWh] | pPUE | DC Size 1MW
--- | --- | --- | --- | --- | --- | ---
Newark | USA | 5663 | 65% | 3097 | 275,884 | 1.157 | 1,379,420
London | EMEA | 7527 | 86% | 1233 | 147,050 | 1.084 | 735,252
Stockholm | EMEA | 8318 | 95% | 442 | 100,909 | 1.058 | 504,546
Frankfurt | EMEA | 6800 | 78% | 1960 | 177,331 | 1.101 | 886,657
Tokyo | APAC | 4381 | 50% | 4379 | 307,842 | 1.176 | 1,539,211
Osaka | APAC | 4360 | 50% | 4400 | 333,250 | 1.190 | 1,666,250
Seoul | APAC | 5099 | 58% | 3661 | 266,938 | 1.152 | 1,334,692
Busan | APAC | 4773 | 54% | 3987 | 276,023 | 1.158 | 1,380,115
Macao | APAC | 1711 | 20% | 7049 | 475,121 | 1.271 | 2,375,604
Shanghai | APAC | 3974 | 45% | 4786 | 338,382 | 1.193 | 1,691,912
Sydney | APAC | 3317 | 38% | 5443 | 336,702 | 1.192 | 1,683,512
Melbourne | APAC | 6424 | 73% | 2336 | 204,810 | 1.117 | 1,024,049
Beijing | APAC | 4984 | 57% | 3776 | 282,498 | 1.161 | 1,412,492
Newark | USA | 5663 | 65% | 3097 | 275,884 | 1.157 | 1,379,420
Dulles | USA | 5581 | 64% | 3179 | 275,843 | 1.157 | 1,379,215
Dallas | USA | 3798 | 43% | 4962 | 405,575 | 1.231 | 2,027,875
Chicago | USA | 6150 | 70% | 2610 | 250,126 | 1.143 | 1,250,630
San Jose | USA | 6630 | 76% | 2130 | 235,009 | 1.134 | 1,175,045
Wenatchee | USA | 6405 | 73% | 2355 | 244,353 | 1.139 | 1,221,765
Amsterdam | EMEA | 7063 | 81% | 1697 | 159,282 | 1.091 | 796,409
Marrakesh | EMEA | 3722 | 42% | 5038 | 400,947 | 1.229 | 2,004,735
Reykjavik | EMEA | 8759 | 100% | 1 | 122,772 | 1.07 | 613,860
Copenhagen | EMEA | 7958 | 91% | 802 | 162,282 | 1.093 | 811,410
Lulea | EMEA | 8352 | 95% | 408 | 140,369 | 1.08 | 701,845
Dublin | EMEA | 7875 | 90% | 885 | 126,588 | 1.072 | 632,940

**ENERGY PERFORMANCE**

**Best-in-class DRY cooling solution**

**NO Refrigerant Pump**

**Indirect Air-Side Economizer cycle**

**Compact with Excellent Serviceability**
SyCool® ITC
Indirect Thermosyphon Cooling

www.munters.com/sycool

#SyCool