

Investigation of Condenser Cooling Medium Temperature on AHU Performance

Dr. P.A. Patil¹, Rohini Kenkare², Avantika Bhalerao³, Abhishek Kokate⁴, Harshal More⁵

Professor, JSPM's Jayawantrao Sawant College of Engineering, Pune, Maharashtra¹

Students JSPM's Jayawantrao Sawant College of Engineering, Pune, Maharashtra^{2,3,4,5}

Abstract: The component housed in large, open box-shaped units called a module that houses the necessary ventilation requirements for purifying, cooling, or re-establishing the indoor air in a building or premises is known as an air handling unit, or AHU. Energy efficiency is a key component of an air handling unit, and the European Eco-plan Guideline 1235/2014 will make it mandatory starting in 2016. Energy input for idle and moderate load is reduced by the desiccant hagggle ooling loop mix in AHU. Desiccant cooling frameworks have been suggested as a successful method for reducing the amount of moisture in stored air. In comparison to fume pressure systems, they don't use ozone-depleting coolants and use less energy. The current task is to investigate the display

Keywords: Air cooled condensers, Ambient temperatures, Fin cleaning, Heat transfer. Performance analysis.

REFERENCES

- [1] Hybrid desiccant cooling systems in supermarket applications, ASHRAE Trans 91 (Part-1B) (1985) 457–468. P.R. Burns, J.W. Mitchell, and W.A. Beckman.
- [2] J. Singh, Desiccant cooling: growing potential and desiccant cooling systems. Arctic India Engineering.
- [3] Hybrid desiccant cooling systems in supermarket applications, ASHRAE Trans 91 (Part-1B) (1985) 457–468. P.R. Burns, J.W. Mitchell, and W.A. Beckman.
- [4] P.L. Dhar, S. Jain, Assessment of solid desiccant-based evaporative cooling cycles for typical hot and humid regions, International Journal of Refrigeration, 18 (5) (1995), 287-96. Jain and co.
- [5] The possibility for solar powered single stage desiccant cooling in southern Europe is discussed in [5] P. Mavroudaki, C.B. Beggs, P.A. Sleight, and S.P. Haliday. 22 Applied Thermal Engineering 1129–1140 (2002).
- [6] Jia, C.X., Wang, R.Z., Dai, Y.J., and Wu, J.Y. A hybrid desiccant air conditioning system analysis. Application Therm Engineering 2006, 26, 2393-2400. (Cross Ref)
- [7] Walke PV, Tidke DJ, Rambhad KS. Review of solid desiccant dehumidification and regeneration techniques. (2016) Renew Sustain Energy Rev, 59:73–83.
- [8] Experimental examination of dehumidification performance of an evaporative cooling-assisted internally cooled liquid desiccant dehumidifier, Beom-Jun Kim, Soo-Yeol Yoon, Yoo-Suk Byon, and Jae-Weon Jeong, Applied Energy, 235, 177-185, (2019).
- [9] Integration of solar aided solid desiccant cooling system with effective evaporative cooling approach for separate load handling, Ghulam Qadar Chaudhary, Muzaffar Ali, Nadeem Ahmed Sheikh, Syed Ihtshamul Haq Gilani, and Shahab Khushboo, Applied Thermal Engineering, 140 696-706, (2018).
- [10] GRI, "Dehumidification-A Major Opportunity for Natural Gas," December 1992. The Gas Research Institute in Chicago has a technology focus.