















- banks of finned tubes. Chem. Eng. Prog. Symp. Ser. 59: 1-10.
- [11] Robinson KK, Briggs DE. (1966). Pressure drop of air flowing across triangular pitch banks of finned tubes. Chem. Eng. Prog. Symp. Ser. 62: 177-184.
- [12] Rabas TJ, Taborek J. (1987). Survey of turbulent forced convection heat transfer and pressure drop characteristics of low finned tube banks in cross flow. Heat Transfer Engineering 8: 49-61.
- [13] Gray DL, Webb RL. (1986). Heat transfer and friction correlations for plate fin and tube heat exchangers having plain fins. Heat Transfer 1986, Proc. Eighth Int. Heat Transfer Conference 6: 2745-2750.
- [14] Cittani L, Bozzoli F, Raineri S. (2017). Experimental study of the transitional flow regime in coiled tubes by the estimation of local convective heat transfer coefficient. International Journal of Heat and Mass Transfer 108(2017): 825-836. <https://doi.org/10.1016/j.ijheatmasstransfer.2017.05.003>
- [15] Ghim G, Lee J. (2017). Condensation heat transfer of low GWP ORC working fluids in a horizontal smooth tube. International Journal of Heat and Mass Transfer 104(2017): 718-728. <https://doi.org/10.1016/j.ijheatmasstransfer.2016.08.090>
- [16] Camaraza-Medina Y, Cruz-Fonticiella OM, García-Morales OF. (2018). Predicción de la presión de salida de una turbina acoplada a un condensador de vapor refrigerado por aire. Centro Azúcar 45(1): 50-61.
- [17] Pourmahmoud N, Abbaszadeh M, Rashidzadeh M. (2016). Numerical simulation of effect of shell heat transfer on the vortex tube performance. International Journal of Heat and Technology 34(2): 293-301. <http://doi.org/10.18280/ijht.340220000>
- [18] Zhang ZY, Yang JG. (2015). The effect of face-air velocity distribution on heat transfer performance of air-cooled condensers. International Journal of Heat and Technology 33(1): 55-62. <http://doi.org/10.18280/ijht.330108>
- [19] Kumar A, Joshi JB, Nayak AK, Vijayan PK. (2016). 3D CFD simulations of air cooled condenser-II: Natural draft around a single finned tube kept in a small chimney. International Journal of Heat and Mass Transfer 92(2016): 507-522. <https://doi.org/10.1016/j.ijheatmasstransfer.2015.07.136>
- [20] Alam MS, Islam T, Uddin MJ. (2016). Mathematical modelling for heat transfer of a micropolar fluid along a permeable stretching/shrinking wedge with heat generation/absorption. Mathematical Modelling of Engineering Problems 3(1): 1-9. <https://doi.org/10.18280/mmep.030101>
- [21] Zhang W, Du X, Yang L, Yang Y. (2016). Research on performance of finned tube bundles of indirect air-cooled heat exchangers. Mathematical Modelling of Engineering Problems 3(1): 47-51. <https://doi.org/10.18280/mmep.030108>
- [22] Camaraza-Medina Y, Khandy NH, Carlson KM, Cruz-Fonticiella OM, García-Morales OF, Reyes-Cabrera D. (2018). Evaluation of condensation heat transfer in air-cooled condenser by dominant flow criteria. Mathematical Modelling of Engineering Problems 5(2): 76-82. <https://doi.org/10.18280/mmep.050204>
- [23] Medina YC, Fonticiella OMC, Morales OFG. (2017). Design and modelation of piping systems by means of use friction factor in the transition turbulent zone. Mathematical Modelling of Engineering Problems 4(4): 162-167. <https://doi.org/10.18280/mmep.040404>
- [24] Medina YC, Khandy NH, Carlson KM, Fonticiella OMC, Morales OFG. (2018). Mathematical modeling of two-phase media heat transfer coefficient in air cooled condenser system. International Journal of Heat and Technology 36(1): 319-324. <https://doi.org/10.18280/ijht.360142>
- [25] Camaraza-Medina Y, Hernandez-Guerrero A, Luviano-Ortiz JL, Mortensen-Carlson K, Cruz-Fonticiella OM, García-Morales O.F. (2018). New model for heat transfer calculation during film condensation inside pipes. International Journal of Heat and Mass Transfer 128(2019): 344-353. <https://doi.org/10.1016/j.ijheatmasstransfer.2018.09.012>

## NOMENCLATURE

F	number of fins per linear meter of tube
$l_F$	Fins height, mm
$t_F$	Fins thickness, mm
$T_{TBS}$	Dry bulb temperature, °C
$V_m$	Maximum velocity in the minimum flow area, $m.s^{-1}$
$V_w$	Wind velocity over ACC installation, $m.s^{-1}$
$d_e$	Inside equivalent diameter of tubes, m
$S_T$	Transverse step, m
$S_L$	Longitudinal passage, m
$S_D$	Diagonal step, m
$d_r$	external diameter of the tubes with fins, m
$V_0$	Velocity of refrigerant entry to the bundle, $m.s^{-1}$

## Greek symbols

$\alpha_L$	Local heat transfer coefficient. $kg.m^{-2}.s^{-3}.K^{-1}$
$\alpha$	Mean heat transfer coefficient. $kg.m^{-2}.s^{-3}.K^{-1}$
$\varphi$	Angle in air cross flow over finned cylinder, degrees
$\theta$	ACC tubes inclination respect to horizontal line

## Subscripts

Eq.	Equation
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