DAFTAR PUSTAKA

[1] B.P.S.K.J. *Frekuensi Kebakaran Menurut Penyebabnya, 2021-2023*. 2024 3 March 2025]; Available from: https://jakbarkota.bps.go.id/id/statistics-table/2/MjQ2IzI=/frekuensi-kebakaran-menurut-penyebabnya.html.

[2] Association, N.F.P., *NFPA 1964, Standard for Spray Nozzles, 2018 Edition*. 2018: National Fire Protection Association.

[3] Selena, C., J. Grunde, and P. Sunderland, *Firefighter Nozzle Reaction.* Fire Technology, 2017. **53**(5): p. 1907-1917.

[4] Wang, Y., et al., *Simulation research of fire water cannon nozzle based on fluent.* International Journal of Mechanical and Electrical Engineering, 2023. **1**.

[5] Madu, K. and C. Atah, *Evaluation of the variable that affect nozzle efficiency*. International Journal of Progressive Research in Engineering Management and Science, 2024. **04**(03): p. 226-233.

[6] Piątek, P., J. Gałaj, and W. Wąsik, *Influence of the Spray Angle on sprinkling intensity distribution in the spray stream by turbo fire hose nozzle*. 2018: p. 138-157.

[7] Khanyi, N., P. Tabakov, and F. Inambao, *A Qualitative Review of Performance Parameters of Aqueous Film Forming Foam* Journal of Propulsion Technology, 2024. **45**(2): p. 6224-6238.

[8] Khan, S.A., O.M. Ibrahim, and A. Aabid, *CFD analysis of compressible flows in a convergent-divergent nozzle.* Materials Today: Proceedings, 2021. **46**: p. 2835-2842.

[9] Ochowiak, M., et al., *The Analysis of pressure drop, spray angle, and sprinkling intensity distribution in the spray stream by the water-foam nozzle.* Polish Journal of Chemical Technology, 2022. **24**(2): p. 42-29.

[10] Salyers, B., *Spray Characteristic from Fire Hose Nozzles*, in *Faculty of the Graduate School*. 2010, University of Maryland. p. 35.

[11] Piątek, P., *Analysis of Influence of the Spray Angle on Sprinkling Intensity Distribution in the Spray Stream Produced by the Selected Turbo Type Fire-Hose Nozzle.* 2018.

[12] Collin, A., et al., *Quantification of radiative attenuation provided by fire hose nozzles.* 2022.

[13] Obach, M., E. Weckman, and A. Strong, *Effects of Different Suppression Tactics on the Firefighter and Compartment Environment.* Fire Safety Science, 2011. **10**: p. 321-334.

[14] Huang, M., et al., *Effects of Nozzle Configuration on Rock Erosion Under a Supercritical Carbon Dioxide Jet at Various Pressures and Temperatures.* Applied Sciences, 2017. **7**(6).

[15] Silva, A.F., *Supersonic Injector Design For Using In A Mixing Chamber.* 13rd Brazilian Congress of Thermal Sciences and Engineering, 2010.

[16] Association, N.F.P., *NFPA 10, Standard for Portable Fire Extinguishers: 2022 Edition*. 2021: National Fire Protection Association.

[17] Ramli, S., *Pedoman praktis manajemen bencana*. 2010: Dian Rakyat.

[18] Jahura, F.T., et al., *Exploring the Prospects and Challenges of Fluorine-Free Firefighting Foams (F3) as Alternatives to Aqueous Film-Forming Foams (AFFF): A Review.* ACS Omega, 2024. **9**(36): p. 37430-37444.

[19] Xu, Z., et al., *Fire-extinguishing performance and mechanism of aqueous film-forming foam in diesel pool fire.* Case Studies in Thermal Engineering, 2020. **17**.

[20] Schaefer, T.H., B.Z. Dlugogorski, and E.M. Kennedy, *Sealability Properties of Fluorine-Free Fire-Fighting Foams (FfreeF).* Fire Technology, 2007. **44**(3): p. 297-309.

[21] Jia, X., H. Bo, and Y. He, *Synthesis and characterization of a novel surfactant used for aqueous film-forming foam extinguishing agent.* Chemical Papers, 2019. **73**(7): p. 1777-1784.

[22] OECD, *Use of aqueous film-forming foams in firefighting.* Series on Emission Scenario Documents, 2021.

[23] Liu, W. and K. Pochiraju, *Back-Pressure Stall Prediction in Eductor-Jet Pumps*. 2016.

[24] Han, J., et al., *A review of key components of hydrogen recirculation subsystem for fuel cell vehicles.* Energy Conversion and Management: X, 2022. **15**.

[25] Koirala, R., et al., *A Review on Process and Practices in Operation and Design Modification of Ejectors.* Fluids, 2021. **6**(11).

[26] *Chapter 7 - Intensified mixing*, in *Process Intensification*, D. Reay, C. Ramshaw, and A. Harvey, Editors. 2008, Butterworth-Heinemann: Oxford. p. 215-221.

[27] Yahya, A.K., et al., *Analisa Head Loss dan Kerja Pompa dengan Variasi Perubahan Diameter pada Sistem Pemipaan.* Majalah Ilmiah Teknologi Industri (SAINTI), 2022. **19**(2): p. 51-57.

[28] Agriandita, I., I. Yudiantoro, and N. Ayoba, *Fluid Flow Regimes Analysis on Drilling Fluid Circulation for Cuttings Lifting in Vertical Drilling Oil Wells.* Journal of Physics and Its Applications 2023. **5**(2): p. 30-34.

[29] Çengel, Y. and J. Cimbala, *Fluid Mechanics : Fundamentals and Applications*. 2017, New York: McGraw-Hill Education.

[30] Gerhart, P.M., A. Gerhart, and J. Hochstein, *Fundamentals of Fluid Mechanics*. 2016, Danvers: Wiley & Sons, Inc.

[31] White, F.M., *Fluid Mechanics*. 2011, New York: McGraw Hill.

[32] ANSYS, *Ansys Fluent Theory Guide*. 2021, Canonsburg, USA: ANSYS, Inc.

[33] Muhammad, A., M.A.H. Ali, and I.H. Shanono, *ANSYS – A bibliometric study*. Materials Today: Proceedings, 2020. **26**: p. 1005-1009.

[34] Li, X., et al., *Effects of different nozzle materials on atomization results via CFD simulation.* Chinese Journal of Chemical Engineering, 2020. **28**(2): p. 362-368.

[35] Sai, B.V., *A review Paper ANSYS Finite element methods using ANSYS.* International Advanced Research Journal in Science, Engineering and Technology, 2021. **8**(3): p. 200-208.

[36] Ramlan, I., et al., *Comparison between Solidworks and Ansys CFX Flow Simulation on Aerodynamic Studies.* Journal of Complex Flow, 2019. **1**: p. 26-30.

[37] Zhou, J.Z., et al., *Analysis and Simulation of the Fluid Field in Thermal Water-Jet Nozzle Based on ANSYS FLUENT & ICEM CFD.* Applied Mechanics and Materials, 2013. **423-426**: p. 1677-1684.

[38] Satyanarayana, G., C. Varun, and S.S. Naidu, *CFD Analysys of Convergent-Divergent Nozzle.* 2013. **Acta Technica Corviniensis**.

[39] Zurita, I., et al., *CFD Simulation Using ANSYS FLUENT of Jet Nozzle of Ethanol at Temperature of 360 K.* Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, 2022. **96**(1): p. 168-178.

[40] ANSYS, *ANSYS Fluent User's Guide.* 2009.

[41] ANSYS, *ANSYS Meshing User's Guide*. 2010.

[42] Gopalakrishnan, R. and P. Disimile, *Development of Inlet Boundary Condition for Accurate Multi-Jet Simulations.* IIJME, 2016. **4**.

[43] Aljure, D., *Turbulent flow modeling and solution*. 2016.

[44] ANSYS, *Modeling Turbulent Flows*, in *Introductory FLUENT Training*, I. ANSYS, Editor. 2006.

[45] Argyropoulos, C.D. and N.C. Markatos, *Recent advances on the numerical modelling of turbulent flows.* Applied Mathematical Modelling, 2015. **39**(2): p. 693-732.

[46] Cho, M., P. Dutta, and J. Shim, *A non-sampling mixing index for multicomponent mixtures.* Powder Technology, 2017: p. 434-444.

[47] Engler, M., et al., *Numerical and experimental investigations on liquid mixing in static micromixers.* Chemical Engineering Journal, 2004. **101**(1-3): p. 315-322.

[48] Izadpanah, E., et al., *Numerical simulation of mixing process in T-shaped and DT-shaped micromixers.* Chemical Engineering Communications, 2018. **205**(3): p. 363-371.

[49] Li, H., et al., *Experimental and numerical investigation on optimization of foaming performance of the kenics static mixer in compressed air foam system.* Engineering Applications of Computational Fluid Mechanics, 2023. **17**(1): p. 2183260.

[50] Ali, Z., et al., *Efficient preprocessing of complex geometries for CFD simulations.* International Journal of Computational Fluid Dynamics, 2019. **33**(3): p. 98-114.

[51] Gu, B., et al., *Study on the Influence Rule of High-Pressure Water Jet Nozzle Parameters on the Effect of Hydraulic Slotting.* Geofluids, 2022. **2022**: p. 1-10.

[52] Xiao, J.-b., et al., *Effect of nozzle geometry on pressure drop in submerged gas injection.* Journal of Central South University, 2019. **26**(8): p. 2068-2076.

[53] Fang, T., et al., *Mathematical modeling and analysis of energy conversion efficiency of particle jet accelerating nozzle.* IOP Conference Series: Materials Science and Engineering, 2020. **758**(1).

[54] Li, H., et al., *Study of Turbulent Kinetic Energy and Dissipation Based on Fractal Impeller.* Sustainability, 2023. **15**(10).

[55] Nitsche, M., *Vortex Dynamics*, in *Encyclopedia of Mathematical Physics*, J.-P. Françoise, G.L. Naber, and T.S. Tsun, Editors. 2006, Academic Press: Oxford. p. 390-399.

[56] Wels, P. and M. Programme, *Comparison of OpenFoam CFD with ANSYS Fluent CFD Gas-gas single phase mixing*. 2016.