



DAFTAR PUSTAKA

- [1] S. Basu, *Plant Flow Measurement and Control Handbook*. London [England] ; Cambridge, MA: Academic Press, 2019.
- [2] D. Romero, T. Graven, dan N. Thornhill, “Linking Process, Electrical and Logical Connectivity for Supported Fault Diagnosis,” pada *Computer Aided Chemical Engineering*, Elsevier, 2015, pp. 965–970.
- [3] X. Shi, C. Tan, F. Dong, dan J. Escudero, “Flow Rate Measurement of Oil-Gas-Water Wavy Flow through a Combined Electrical and Ultrasonic Sensor,” *Chem. Eng. J.*, vol. 427, p. 131982, 2022,
- [4] J. Wilson, *Sensor Technology Handbook*. Amsterdam ; Elsevier, 2005.
- [5] L. Hansen, S. Pedersen, dan P. Durdevic, “Multi-Phase Flow Metering in Offshore Oil and Gas Transportation Pipelines: Trends and Perspectives,” *Sensors*, vol. 19, no. 9, p. 2184, 2019,
- [6] M. Laughton dan D. Warne, *Electrical Engineer’s Reference Book*, 16th ed. Boston: Newnes, 2003.
- [7] A. Morris dan R. Langari, *Measurement and Instrumentation: Theory and Application*. Waltham, MA: Academic Press, 2012.
- [8] R. Legg, *Air Conditioning System Design*. Cambridge, MA: Butterworth-Heinemann, 2017.
- [9] Instrucalc, “Harness the Power of Over 70 Sizing Routines.” [Daring]. Tersedia: <https://imagegraffix.in/wp-content/uploads/2021/08/INSTRUCALC-BROCHURE.pdf>
- [10] FlowCalc, “Orifice Plate Sizing Made Easy.” [Daring]. Tersedia: <https://www.controlengineering.se/en/>
- [11] International Organization for Standardization, “Measurement of Fluid Flow by Means of Pressure Differential Devices Inserted in Circular Cross-Section Conduits Running Full – Part 1.” 2003.
- [12] M. Mubarok, S. Zarrouk, dan J. Cater, “Two-Phase Flow Measurement of Geothermal Fluid Using Orifice Plate: Field Testing and CFD Validation,”





Renew. Energy, vol. 134, pp. 927–946, Apr. 2019, doi: 10.1016/j.renene.2018.11.081.

- [13] I. Mangas, M. Sogorb, dan E. Vilanova, “Lubricating Oils,” pada *Encyclopedia of Toxicology*, Elsevier, 2014, pp. 670–676.
- [14] S. Shi, L. Jie, X. Yang, C. Liu, dan R. Liao “Study on the Pressure Drop Variation and Prediction Model of Heavy Oil Gas-Liquid Two-Phase Flow,” *Geofluids*, vol. 2021, pp. 1–20, 2021.
- [15] R. Zhang, F. Tao, H. Jin, X. Guo, dan G. He, “Effect of Liquid Properties on Frictional Pressure Drop in a Gas-Liquid Two-Phase Microchannel,” *Processes*, vol. 10, no. 5, p. 799, 2022.
- [16] M. Gryta, “Effect of Flow-Rate on Ethanol Separation in Membrane Distillation Process,” *Chem. Pap.*, vol. 67, no. 9, 2013.
- [17] J. W. Murdock, “Two-Phase Flow Measurement with Orifices,” *J. Basic Eng.*, vol. 84, no. 4, pp. 419–432, 1962.
- [18] O. Goushcha, “Revival of Water Table Experiments in Fluid Mechanics Courses, Part I,” *Int. J. Mech. Eng. Educ.*, vol. 48, no. 3, pp. 284–293, 2020.
- [19] P. Kundu, I. Cohen, D. Dowling, dan G. Tryggvason, *Fluid Mechanics*, Boston: Elsevier/AP, 2016.
- [20] M. Tukiman, M. Ghazali, A. SAdikin, N. Nasir, N. Nordin, A. Sapit, dan M. Razali, “CFD Simulation of Flow through an Orifice Plate,” *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 243, p. 012036, 2017.
- [21] E. Donati dan J. Andrade-Gamboa, “Kinetic Approach for the Vapor Pressure Lowering by Non Volatile Solutes,” *Educ. Quím.*, vol. 21, no. 4, pp. 274–277, 2010.
- [22] R. James, “Metering of Steam-Water Two-Phase Flow by Sharp-Edged Orifices,” *Proc. Inst. Mech. Eng.*, vol. 180, no. 1, pp. 549–572, 1965, doi: 10.1243/PIME_PROC_1965_180_038_02.
- [23] R. Kandan, A. Jain, P. Venkatesh, dan B. Prabhakara Reddy, “Enthalpy measurements and thermodynamic properties of M₂TeO₆(s) (M = Eu,Dy),” *J. Chem. Thermodyn.*, vol. 144, p. 106056, 2020.





- [24] K. Yalamanchi, M. Monge-Palacios, V. Van Oudenhoven, X. Gao, dan S. Sarathy, “Data Science Approach to Estimate Enthalpy of Formation of Cyclic Hydrocarbons,” *J. Phys. Chem. A*, vol. 124, no. 31, pp. 6270–6276, 2020.
- [25] D. Chisholm, “Flow of Compressible Two-Phase Mixtures through Sharp-Edged Orifices,” *J. Mech. Eng. Sci.*, vol. 23, no. 1, pp. 45–48, Feb. 1981, doi: 10.1243/JMES_JOUR_1981_023_008_02.
- [26] S. Helbig dan S. Zarrouk, “Measuring Two-Phase Flow in Geothermal Pipelines Using Sharp Edge Orifice Plates,” *Geothermics*, vol. 44, pp. 52–64, 2012.
- [27] S. Campos, J. Baliño, I. Slobodcicov, D. Filho, dan E. Paz, “Orifice Plate Meter Field Performance: Formulation and Validation in Multiphase Flow Conditions,” *Exp. Therm. Fluid Sci.*, vol. 58, pp. 93–104, 2014.
- [28] Z. H. Lin, “Two-Phase Flow Measurements with Sharp-Edged Orifices,” *Int. J. Multiph. Flow*, vol. 8, no. 6, pp. 683–693, 1982.
- [29] H. Zhang, S. Lu, dan G. Yu, “An Investigation of Two-Phase Flow Measurement with Orifices for Low-Quality Mixtures,” *Int. J. Multiph. Flow*, vol. 18, no. 1, pp. 149–155, 1992.
- [30] S. M. Richardson, G. Saville, S. Fisher, A. Meredith, dan M. Dix, “Experimental Determination of Two-Phase Flow Rates of Hydrocarbons Through Restrictions,” *Process Saf. Environ. Prot.*, vol. 84, no. 1, pp. 40–53, 2006.
- [31] G. Giacchetta, M. Leporini, B. Marchetti, dan A. Terenzi, “Numerical Study of Choked Two-Phase Flow of Hydrocarbons Fluids through Orifices,” *J. Loss Prev. Process Ind.*, vol. 27, pp. 13–20, 2014.
- [32] P. Bajpai, *Biermann's Handbook of Pulp and Paper*. Elsevier, 2018. doi: 10.1016/C2017-0-00530-X.
- [33] A. Morris dan R. Langari, “Flow measurement,” pada *Measurement and Instrumentation*, Elsevier, 2021, pp. 499–534.
- [34] M. Brandt, K. Johnson, A. Elphinston, dan D. Ratnayaka, “Hydraulics,” pada *Twort's Water Supply*, Elsevier, 2017, pp. 581–619.





- [35] D. Alexander, “Fluid Biomechanics,” pada *Nature’s Machines*, Elsevier, 2017, pp. 51–97. doi: 10.1016/B978-0-12-804404-9.00003-7.
- [36] F. White, *Fluid Mechanics*, pada McGraw-Hill series in mechanical engineering. New York, NY: McGraw-Hill, 2009.
- [37] R. Teyssandier dan Z. Husain, “Experimental Investigation of an Orifice Meter Pressure Gradient,” *J. Fluids Eng.*, vol. 109, no. 2, pp. 144–148, 1987.
- [38] J. Fanchi, *Principles of Applied Reservoir Simulation*. Elsevier, 2018.
- [39] C. Tan dan F. Dong, “Sensor Instrumentation for Flow Measurement,” in *Encyclopedia of Sensors and Biosensors*, Elsevier, 2023, pp. 536–554.
- [40] M. Wali, “Experimental Analysis of Multi-Phase Flows in Orifice,” University of Stavanger, Norwegia, 2022.
- [41] Y. Zhao, H. Akolekar, J. Weatheritt, V. Michelassi, dan R. Sandberg, “RANS Turbulence Model Development Using CFD-Driven Machine Learning,” *J. Comput. Phys.*, vol. 411, p. 109413, 2020.
- [42] M. Mansour, P. Khot, P. Kováts, D. Thévenin, K. Zähringer, dan G. Janiga, “Impact of Computational Domain Discretization and Gradient Limiters on CFD Results Concerning Liquid Mixing in a Helical Pipe,” *Chem. Eng. J.*, vol. 383, p. 123121, 2020.
- [43] S. Radl dan F. Municchi, “Spatial Filtering for Scale Bridging and Its Application to Transport in Dense Particle Beds,” pada *Advances in Chemical Engineering*, Elsevier, 2018, pp. 153–237.
- [44] M. Hamdan, D. Sebastia-Saez, M. Hamdan, dan H. Arellano-Garcia, “CFD Analysis of the Use of Desert Sand as Thermal Energy Storage Medium in a Solar Powered Fluidised Bed Harvesting Unit,” pada *Computer Aided Chemical Engineering*, Elsevier, 2020, pp. 349–354.
- [45] S. Vlaev, K. Tonova, K. Pavlova, dan M. Elqotbi, “Bioprocessing of Exopolysaccharides (EPS),” pada *Computer Aided Chemical Engineering*, Elsevier, 2011, pp. 1411–1415.
- [46] K. Schrank, H. Murrenhoff, dan C. Stammen, “CFD Simulations and Experiments of the Dispersed Two-Phase Flow Through Hydraulic Orifices,” USA: ASME, Jul. 2013, p. V01CT17A006.





- [47] J. Palm, J. Kirkpatrick, dan W. Anderson, “Determination of Steam Quality Using and Orifice Meter,” *J. Pet. Technol.*, vol. 20, no. 6, pp. 587–591, 1968.
- [48] P. Diehl, S. Prudhomme, dan M. Lévesque, “A Review of Benchmark Experiments for the Validation of Peridynamics Models,” *J. Peridynamics Nonlocal Model.*, vol. 1, no. 1, pp. 14–35, 2019.
- [49] H. Liu *et al.*, “A General Prediction Model of Minimum Film Boiling Temperature During Quenching Propagation in Narrow Rectangular Channel,” *Appl. Therm. Eng.*, vol. 212, p. 118640, 2022.
- [50] X. Tang, X. Duan, H. Gao, X. Li, dan X. Shi, “CFD Investigations of Transient Cavitation Flows in Pipeline Based on Weakly-Compressible Model,” *Water*, vol. 12, no. 2, p. 448, 2020.
- [51] X. Zhang, M. Peng, T. Cong, C. Lu, dan C. Wang, “Implementation and Validation of an Improved Interfacial Area Concentration Model for Two-Phase Flow CFD Simulations,” in *Volume 4: Student Paper Competition*, Virtual, Online: American Society of Mechanical Engineers, 2021, p. V004T14A029.
- [52] A. Silva, “Numerical and Experimental Study of Venturi Scrubbers,” Instituto Politecnico de Viana do Castelo, 2008.
- [53] L. Torres, J. Noguera, J. E. Guzmán-Vázquez, J. Hernández, M. Sanjuan, dan A. Palacio-Pérez, “Pressure Signal Analysis for the Characterization of High-Viscosity Two-Phase Flows in Horizontal Pipes,” *J. Mar. Sci. Eng.*, vol. 8, no. 12, p. 1000, 2020.
- [54] R. Sun, G. Song, D. Zhang, G. H. Su, F. A. Kulacki, and W. Tian, “Flow Boiling Pressure Drop Characteristics in Rectangular Channels under Uniform and Non-Uniform Heating,” *Int. J. Heat Mass Transf.*, vol. 157, p. 119811, 2020.
- [55] M. Pysz, S. Głuch, and D. Mikielewicz, “Experimental study of flow boiling pressure drop and heat transfer of R1233zd(E) at moderate and high saturation temperatures,” *Int. J. Heat Mass Transf.*, vol. 204, p. 123855, May 2023.





UNIVERSITAS
GADJAH MADA

PENINJAUAN MODEL KORELASI LAJU MASSA ALIRAN DAN TEKANAN DIFERENSIAL PADA
ALIRAN DUA FASE MELALUI
PELAT ORIFIS

Alfitra Heydar Achsan, Dr.-Ing. Awang Noor Indra Wardana
Universitas Gadjah Mada, 2023 | Diunduh dari <http://etd.repository.ugm.ac.id/>

- [56] J. Lira, H. Riella, N. Padoin, dan C. Soares, “Computational Fluid Dynamics (CFD), Artificial Neural Network (ANN) and Genetic Algorithm (GA) as a Hybrid Method for the Analysis and Optimization of Micro-Photocatalytic Reactors: NO_x Abatement as a Case Study,” *Chem. Eng. J.*, vol. 431, p. 133771, 2022.
- [57] C. Wüstenhagen, K. John, S. Langner, M. Brede, S. Grundmann, dan M. Bruschewski, “CFD Validation Using In-Vitro MRI Velocity Data – Methods for Data Matching and CFD Error Quantification,” *Comput. Biol. Med.*, vol. 131, p. 104230, 2021.
- [58] K. Javanroodi, V. Nik, M. Giometto, dan J. Scartezzini, “Combining Computational Fluid Dynamics and Neural Networks to Characterize Microclimate Extremes: Learning the Complex Interactions Between Meso-Climate and Urban Morphology,” *Sci. Total Environ.*, vol. 829, p. 154223, 2022.

