UNIVERSITAS
GADJAH MADA
Simulasi Numerik Pengaruh Sudut Pitch dan Arc Angle terhadap Kinerja Turbin Hibrida Savonius-Darrieus pada Arus Laut Kecepatan Rendah
Adinata Raharja, Ir. Muhammad Agung Bramantya, S.T., MT., M.Eng., Ph.D., IPM., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Abdalrahman, G., Melek, W., & Lien, F. (2017). Pitch angle control for a small-scale Darrieus vertical axis wind turbine with straight blades (H-Type VAWT). *Renewable Energy*, *114*, 1353–1362. https://doi.org/10.1016/j.renene.2017.07.068

Abdelaziz, K. R., Nawar, M. A. A., Ramadan, A., Attai, Y. A., & Mohamed, M. H. (2022). Performance investigation of a Savonius rotor by varying the blade arc angles. *Ocean Engineering*, *260*(May), 112054. https://doi.org/10.1016/j.oceaneng.2022.112054

Andrés, G., Pizarro, J., & Valle, U. (2025). *EVALUATION OF THE HYDRODYNAMIC PERFORMANCE OF A SUBMERGED VERTICAL AXIS HYDROKINETIC TURBINE*.

Ansys. (2025). *ANSYS Meshing User's Guide. Retrieved from https://ansys.com ANSYS Inc. (2023b). Fluent Meshing with Watertight Geometry Workflow.*

Arrieta-Gomez, M., Vélez-García, S., Hincapié Zuluaga, D., Tejada, J. C., & Sanin-Villa, D. (2025). Efficiency optimization of a hybrid Savonius-Darrieus hydrokinetic turbine via regression modeling and CFD-based design of experiments. *Results in Engineering*, *27*(March), 105751. https://doi.org/10.1016/j.rineng.2025.105751

Cengel, Y. A. (2014). *FLUID MECHANICS: FUNDAMENTALS AND APPLICATIONS, THIRD EDITION*.

Etemadeasl, V., Mahmoudi Majdabadi, M., Gharali, K., & Riasi, A. (2024). The effect of free surface level on the performance of a Savonius hydrokinetic turbine: Experimental and numerical study. *Ocean Engineering*, *303*(March). https://doi.org/10.1016/j.oceaneng.2024.117715

Hakim, R. R. Al. (2020). Model Energi Indonesia, Tinjauan Potensi Energy Terbarukan Untuk Ketahanan Energi Di Indonesia: Literatur Review. *ANDASIH Jurnal Pengabdian kepada Masyarakat*, *1*(1), 1.

Hantoro, R., & Septyaningrum, E. (2018). Novel design of a vertical axis hydrokinetic turbine-straight-blade cascaded (VAHT-SBC): Experimental and numerical simulation. *Journal of Engineering and Technological Sciences*, *50*(1), 73–86. https://doi.org/10.5614/j.eng.technol.sci.2018.50.1.5

Ketenagalistrikan, D. J., Energi, K., Sumber, D. A. N., Mineral, D., & Indonesia, R. (2025). *Statistik Ketenagalistrikan 2024*. (38).

UNIVERSITAS
GADJAH MADA
Simulasi Numerik Pengaruh Sudut Pitch dan Arc Angle terhadap Kinerja Turbin Hibrida Savonius-Darrieus pada Arus Laut Kecepatan Rendah
Adinata Raharja, Ir. Muhammad Agung Bramantya, S.T., MT., M.Eng., Ph.D., IPM., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Khan, M. J., Bhuyan, G., Iqbal, M. T., & Quaicoe, J. E. (2009). Hydrokinetic energy conversion systems and assessment of horizontal and vertical axis turbines for river and tidal applications: A technology status review. *Applied Energy*, *86*(10), 1823–1835. https://doi.org/10.1016/j.apenergy.2009.02.017

Mohammed, M., Sarip, S., Aziz, S. A., & Mustafa, W. A. (2024). Systematic Review of Computational Fluid Dynamics Modelling and Simulation Techniques Employed in Vertical Axis Hydrokinetic Turbines. *Journal of Advanced Research in Applied Mechanics*, *117*(1), 51–71. https://doi.org/10.37934/ARAM.117.1.5171

Prayoga, W. A., & Permatasari, R. (2019). Perancangan dan Pemodelan Turbin Darrieus untuk Pembangkit Listrik Tenaga Arus Laut (PLTAL). *Mesin*, *10*(1), 5–10. https://doi.org/10.25105/ms.v10i1.4127

Rengma, T., Kumar, S., Kumar Gupta, M., & Subbarao, P. M. V. (2023). Performance investigation on blade arc angle and blade shape factor of a Savonius hydrokinetic turbine using artificial neural network. *Energy Sources, Part A: Recovery, Utilization and Environmental Effects*, *45*(3), 8104–8124. https://doi.org/10.1080/15567036.2023.2226096

Sagharichi, A., Maghrebi, M. J., Arabgolarcheh, A., Sagharichi, A., Maghrebi, M. J., & Arabgolarcheh, A. (2016). *Variable pitch blades : An approach for improving performance of Darrieus wind turbine Variable pitch blades : An approach for improving performance of Darrieus wind turbine*. *053305*. https://doi.org/10.1063/1.4964310

Saini, G., & Saini, R. P. (2018). Numerical Investigation of the Effect of Blade Profile of a Darrieus Hydrokinetic Turbine. *2018 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering, UPCON 2018*, 8–13. https://doi.org/10.1109/UPCON.2018.8597073

Satrio, D., Utama, I. K. A. P., & Mukhtasor. (2018). Performance Enhancement Effort for Vertical-Axis Tidal-Current Turbine in Low Water Velocity. *4th Asian Wave and Tidal Energy Conference (AWTEC)*, (September 2021), 1–5. https://api.semanticscholar.org/CorpusID:245129945

Versteeg, W. M. (2007). *An Introduction to Computational Fluid Dynamics*.

UNIVERSITAS
GADJAH MADA
Simulasi Numerik Pengaruh Sudut Pitch dan Arc Angle terhadap Kinerja Turbin Hibrida Savonius-Darrieus pada Arus Laut Kecepatan Rendah
Adinata Raharja, Ir. Muhammad Agung Bramantya, S.T., MT., M.Eng., Ph.D., IPM., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Yosry, A. G., Álvarez, E. Á., Valdés, R. E., Pandal, A., & Marigorta, E. B. (2023). Experimental and multiphase modeling of small vertical-axis hydrokinetic turbine with free-surface variations. *Renewable Energy*, *203*(January), 788–801. https://doi.org/10.1016/j.renene.2022.12.114