

DAFTAR PUSTAKA

Anggara, S., & Utama, I. P. (2012). Analisa CFD Pengaruh Penambahan Appendage pada Lambung Katamaran terhadap Hambatan Viskos. *Jurnal Teknik ITS*, 1(1), G69-G74.

Finn, Tobias. "Hydroelasticity of a large floating windturbine platform." (2014).

Intan, F. N. (2017). *Analisa Kekuatan Memanjang Akibat Beban Gelombang dan Slamming Pada Kapal Survei Seismik Geomarin IV* (Doctoral dissertation, Institut Teknologi Sepuluh Nopember).

Korobkin, Alexander, Emilian I. Părău, and Jean-Marc Vanden-Broeck. "The mathematical challenges and modelling of hydroelasticity." (2011): 2803-2812.

Lukman Bockhary, Rosmani, dan Suandar Baso, 2016. "Pengaruh Rasio Lebar (B) dan Sarat (T) Terhadap Tahanan Kapal", Program Studi Teknik Perkapalan Universitas Hasanuddin, Makassar.

Marón, A., & Kapsenberg, G. (2014). Design of a ship model for hydro-elastic experiments in waves. *International Journal of Naval Architecture and Ocean Engineering*, 6(4), 1130-1147.

Mutsuda, H., Baso, S., & Doi, Y. (2013). A Hybrid Particle-Grid Scheme for Computing Hydroelastic Behaviors Caused by Slamming. In *5th*

International Conference on Computational Methods in Marine Engineering, RINE2013, CD-R.



Nakayama, Y. (2018). *Introduction to fluid mechanics*. Butterworth-Heinemann.

Nasir, M., & Syafiul, A. (2011). Optimalisasi Penempatan Sensor Untuk Pengukuran Distribusi Tekanan Model Kapal Bersayap. *Wave: Jurnal Ilmiah Teknologi Maritim*, 5(1), 32-36.

Punduh I Wayan, 2011. "Tekanan Air Laut Yang Bekerja Pada Kapal", Jurusan Teknik, Program Diploma Pelayaran Universitas Hang Tuah, Surabaya

Romadhoni, R. (2017). Analisa Perbandingan Bentuk Lambung Bulbous Bow Kepala Hiu Martil terhadap Hambatan Total Kapal. *INOVTEK POLBENG*, 7(1), 42-50.

Sharma, R. and Sha, O.P. (2005), "Practical Hydrodynamic Design of Bulbous Bows for Ships", *Naval Engineers Journal*, Vol.117, No.1, pp.57-76.

Wigley.1936."The Theory Of Bulbous bow and it's Practical Application",*Transactions, NECIES*,Vol.52,pp 65-88.

https://www.researchgate.net/publication/298736544_PENGARUH_ANTI-SLAMMING_BULBOUS_BOW_TERHADAP_GERAKAN_SLAMMING_PAD_A_KAPAL_PERINTIS_200_DWT

https://www.academia.edu/32676991/Prediksi_Beban_Hidrodinamika_Slamming_Pada_Struktur_Badan_Tekan_Kapal_Selam.



LAMPIRAN – LAMPIRAN



LAMPIRAN 1.

Main Parameters of ship-bulb combinations of data collected with $C_b = 0,7$

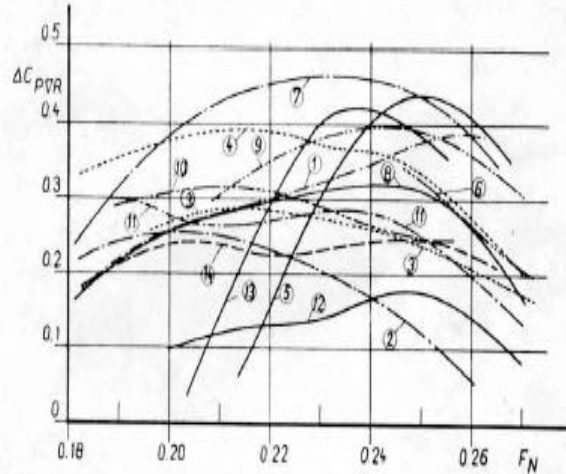


Fig. 14 Residual power reduction coefficient of 14 ship-bulb combinations as a function of Froude number. Basic diagram for Figs. 15-20 (for main parameters, see Table 2). Curve parameter is the bulb form

Table 2 Main parameters of ship-bulb combinations of the data collected with $C_b = 0.7$ (see Fig. 14)

Model	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
without bulb	C_B	0.6846	0.689	0.6891	0.6918	0.6924	0.6963	0.6967	0.6970	0.7004	0.7033	0.7145	0.7227	0.7266	
	C_{WL}	0.8173	0.8389		0.7931	0.7762			0.8058			0.8449	0.7994		
	C_M	0.9829	0.9868	0.8785	0.9938	0.9845	0.9916	0.9733	0.9783	0.9868	0.9920	0.9829	0.9949	0.9845	0.9816
	C_{PE}	0.6865		0.7211	0.6919	0.6994	0.7148	0.7234	0.7234	0.6703	0.6452	0.6662	0.6985	0.6994	0.6945
	L_{WL}/B	7.5489	6.088	5.293	6.4997	6.0061	5.702	6.094	6.094	7.2094	7.315	8.171	6.744	6.7170	6.517
	B/T	2.1539	3.006	3.153	2.8285	3.0402	2.972	3.114	3.114	2.2575	2.491	2.168	2.3259	3.0402	2.724
with bulb	L_F/B	3.774	3.044	2.0472	2.880	2.4561	2.855	2.970	2.178	3.1634	2.907	3.501	2.9250	2.4561	2.514
	C_B	0.6846		0.6935	0.6977	0.7069	0.7026	0.7055	0.7028	0.7062	0.7047	0.7070	0.7194	0.7373	0.7317
	L_F/B	3.774		2.244	3.4639	2.6587	3.063	3.240	3.197	3.4162	3.1100	3.673	3.4639	2.6587	2.722
	C_{LPR}	0.0370	0.0299	0.0433	0.0329	0.0330	0.0363	0.0440	0.0368	0.0381	0.0251	0.0258	0.0329	0.0296	0.0330
	C_{BB}	0.1554	0.0640	0.1762	0.1821	0.1798	0.1717	0.2091	0.1746	0.1538	0.1463	0.1351	0.1821	0.1798	0.1734
	C_{ZB}	0.6377	0.6580	0.5612	0.6730	0.9333	0.9938	0.5587	0.5852	0.5810	0.6309	0.4267	0.5530	0.9333	0.5652
$\%C_{PPR}$	C_{ABT}	0.1008	0.0465	0.1103	0.1056	0.1090	0.1035	0.1367	0.1061	0.1032	0.0956	0.0802	0.0879	0.1090	0.1008
	C_{ABL}	0.1829	0.1258	0.1286	0.1498	0.1516	0.1237	0.4596	0.1284	0.1832	0.1096	0.1268	0.1230	0.1516	0.1157
	$\%C_{PPR}$	0.3356	0.1350	0.4015	0.3929	0.3608	0.2871	0.5878	0.3618	0.3720	0.2246	0.1819	0.3118	0.3096	0.2975
	$\%C_{Y_{tot}}$	1.7026	0.3782	0.6466	0.8712	0.3713	0.9071	1.2547	0.8462	1.3183	0.6207	0.5177	0.6936	2.0363	0.6957
	$\%C_{s_{tot}}$	3.0572	1.4159	2.1905	3.0228	2.8112	3.0283	3.0692	2.4768	2.5054	2.3123	1.8757	2.6458	2.4545	2.3753

Design of Bulbous Bows

205

Sumber : Alferd M. Kracht, desain of bulbous bows

Main Parameters of ship-bulb combinations of data collected with $C_b = 0,7$



LAMPIRAN 2

Penentuan kecepatan Model kapal

B Untuk Kecepatan 9 Knot atau 0,732 m/s

9	Knot
Frs = Frm	
dimana:	
$Frs = \frac{V_s}{\sqrt{gL_s}} = \frac{4,6296}{\sqrt{9,81 * 72,1}}$	$Frm = \frac{V_m}{\sqrt{gL_m}}$
$Frs = 0.17408$	
$Frs = Frm = 0.17408$	$L_m = 1.8023m$ $g = 9.81 m/s^2$
sehingga kecepatan dalam m/s jika fr disamakan (berdasarkan hukum kesamaan kinematis)	
$v_m = \sqrt{g \times L_m} \times Frm$	
Vm (m/s)=	0.732004

C Untuk Kecepatan 12 knot atau 0,976 m/s

12	Knot
Frs = Frm	
dimana:	
$Frs = \frac{V_s}{\sqrt{gL_s}} = \frac{6,1728}{\sqrt{9,81 * 72,1}}$	$Frm = \frac{V_m}{\sqrt{gL_m}}$
$Frs = 0.2321$	
$Frs = Frm = 0.2321$	$L_m = 1.8023m$ $g = 9.81 m/s^2$
sehingga kecepatan dalam m/s jika fr disamakan (berdasarkan hukum kesamaan kinematis)	
$v_m = \sqrt{g \times L_m} \times Frm$	
(m/s)=	0.976



D Untuk Kecepatan 15 knot atau 1,22 m/s

15	Knot
Frs = Frm	
dimana:	
$Frs = \frac{v_s}{\sqrt{g L_s}} = \frac{7.716}{\sqrt{9,81 * 72,1}}$	$Frm = \frac{v_m}{\sqrt{g L_m}}$
Frs = 0.29013	
Frs = Frm = 0.29013	Lm = 1.8023m g = 9.81 m/s ²
sehingga kecepatan dalam m/s jika fr disamakan (berdasarkan hukum kesamaan kinematis)	
$v_m = \sqrt{g \times L_m} \times Frm$	
Vm (m/s)=	1,22



LAMPIRAN 3

Penentuan nilai tekanan sensor model kapal menggunakan *Rigid body* setiap variasi kecepatan.

$D = 0,011 \text{ m}$, maka luas penampang lingkaran

$$A = \pi \times r^2 = 3,14 \times (0,0055)^2 \text{ m} = 0,000707 \text{ m}^2$$

$$\text{Tegangan} = \frac{5v/\text{nilai data digital}}{1024} = V$$

$$\text{Jadi, Tekanan} = \frac{\text{Tegangan (V)} / 9.6503 \text{ N}}{0,000707 \text{ m}^2} = \text{N/m}^2$$

Tenakan pada kecepatan 0,732 m/s

Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	0	0	0	0	0	0	0	0	0	0	0	0
0.3	0	0	0	0	0	0	0	0	0	0	0	0
0.4	0	0	0	0	0	0	0	0	0	0	0	0
0.5	0	0	0	0	0	0	0	0	0	0	0	0
0.6	0	0	0	0	0	0	0	0	0	0	0	0
0.7	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
0.8	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
0.9	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
1	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
1.1	0	0	0	0	0	0	0	0	0	0	0	0
1.2	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
1.3	0	0	0	0	0	0	0	0	0	0	0	0
1.4	0	2	0	0	0	0.00977	0	0	0	133.392	0	0
1.5	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
1.6	1	2	0	0	0.00488	0.00977	0	0	66.6958	133.392	0	0
1.7	2	0	0	0	0.00977	0	0	0	133.392	0	0	0
1.8	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
1.9	0	0	0	0	0	0	0	0	0	0	0	0
2	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
2.1	0	0	0	0	0	0	0	0	0	0	0	0
2.2	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
2.3	1	0	1	0	0.00488	0	0.00488	0	66.6958	0	66.6958	0
2.4	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
2.5	4	0	0	0	0.01953	0	0	0	266.783	0	0	0
2.6	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
		1	0	0	0	0.00488	0	0	0	66.6958	0	0
		0	0	0	0.00488	0	0	0	66.6958	0	0	0
		0	0	1	0.01953	0	0	0.00488	266.783	0	0	66.6958
		3	0	0	0.00488	0.01465	0	0	66.6958	200.087	0	0
		0	0	1	0.01953	0	0	0.00488	266.783	0	0	66.6958
		1	0	0	0	0.00488	0	0	0	66.6958	0	0



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
3.3	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
3.4	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
3.5	1	3	0	0	0.00488	0.01465	0	0	66.6958	200.087	0	0
3.6	2	0	1	3	0.00977	0	0.00488	0.01465	133.392	0	66.6958	200.087
3.7	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
3.8	2	3	0	0	0.00977	0.01465	0	0	133.392	200.087	0	0
3.9	4	0	0	0	0.01953	0	0	0	266.783	0	0	0
4	5	0	0	0	0.02441	0	0	0	333.479	0	0	0
4.1	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
4.2	4	0	0	1	0.01953	0	0	0.00488	266.783	0	0	66.6958
4.3	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
4.4	0	0	2	0	0	0	0.00977	0	0	0	133.392	0
4.5	5	0	0	1	0.02441	0	0	0.00488	333.479	0	0	66.6958
4.6	2	1	0	0	0.00977	0.00488	0	0	133.392	66.6958	0	0
4.7	1	3	0	0	0.00488	0.01465	0	0	66.6958	200.087	0	0
4.8	4	0	0	0	0.01953	0	0	0	266.783	0	0	0
4.9	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
5	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
5.1	0	0	2	0	0	0	0.00977	0	0	0	133.392	0
5.2	2	0	0	0	0.00977	0	0	0	133.392	0	0	0
5.3	2	3	0	0	0.00977	0.01465	0	0	133.392	200.087	0	0
5.4	0	0	2	0	0	0	0.00977	0	0	0	133.392	0
5.5	4	0	0	0	0.01953	0	0	0	266.783	0	0	0
5.6	0	0	0	0	0	0	0	0	0	0	0	0
5.7	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
5.8	2	0	1	1	0.00977	0	0.00488	0.00488	133.392	0	66.6958	66.6958
5.9	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
6	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
6.1	4	0	0	0	0.01953	0	0	0	266.783	0	0	0
6.2	1	3	0	0	0.00488	0.01465	0	0	66.6958	200.087	0	0
6.3	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
6.4	5	0	0	0	0.02441	0	0	0	333.479	0	0	0
6.5	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
6.6	4	0	0	0	0.01953	0	0	0	266.783	0	0	0
6.7	0	0	2	0	0	0	0.00977	0	0	0	133.392	0
6.8	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
6.9	2	2	0	0	0.00977	0.00977	0	0	133.392	133.392	0	0
7	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
7.1	0	2	0	0	0	0.00977	0	0	0	133.392	0	0
7.2	1	2	0	0	0.00488	0.00977	0	0	66.6958	133.392	0	0
7.3	2	3	0	0	0.00977	0.01465	0	0	133.392	200.087	0	0
7.4	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
7.5	0	0	2	0	0	0	0.00977	0	0	0	133.392	0
7.6	0	0	0	0	0	0	0	0	0	0	0	0
7.7	0	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0
7.8	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
7.9	0	0	2	0	0	0	0.00977	0	0	0	133.392	0
8	0	0	2	0	0	0	0.00977	0	0	0	133.392	0
		1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
		0	0	0	0.00977	0	0	0	133.392	0	0	0
		0	2	0	0	0	0.00977	0	0	0	133.392	0
		3	0	0	0.00488	0.01465	0	0	66.6958	200.087	0	0
		2	0	0	0.00488	0.00977	0	0	66.6958	133.392	0	0
		1	0	0	0	0.00488	0	0	0	66.6958	0	0



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
8.7	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
8.8	2	0	1	0	0.00977	0	0.00488	0	133.392	0	66.6958	0
8.9	4	0	0	0	0.01953	0	0	0	266.783	0	0	0
9	0	2	0	0	0	0.00977	0	0	0	133.392	0	0
9.1	3	1	0	0	0.01465	0.00488	0	0	200.087	66.6958	0	0
9.2	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
9.3	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
9.4	0	0	0	0	0	0	0	0	0	0	0	0
9.5	0	0	3	0	0	0	0.01465	0	0	0	200.087	0
9.6	1	3	0	0	0.00488	0.01465	0	0	66.6958	200.087	0	0
9.7	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
9.8	4	0	0	0	0.01953	0	0	0	266.783	0	0	0
9.9	2	0	0	0	0.00977	0	0	0	133.392	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
Tekanan Rata-rata									152.113	122.276	94.4858	88.9278

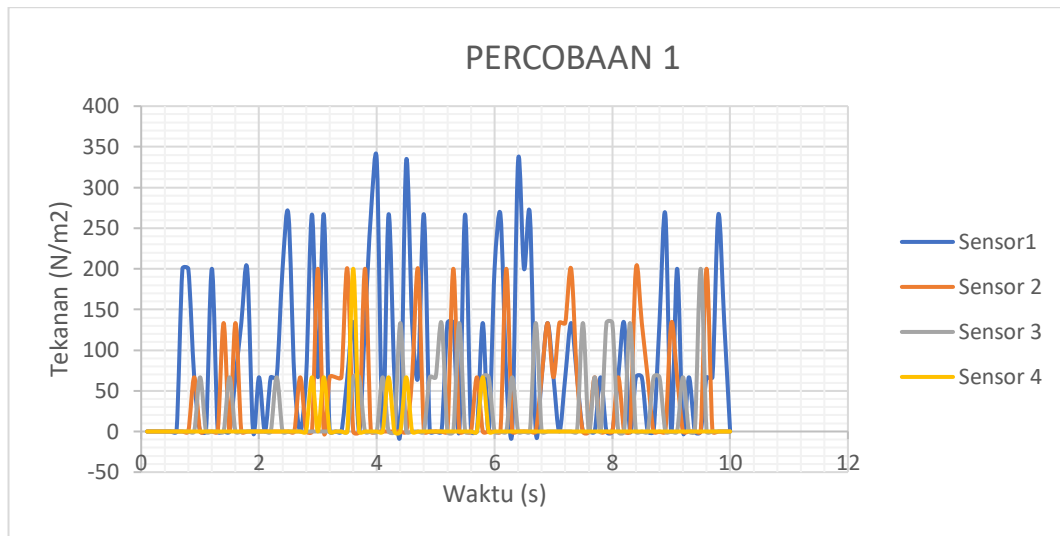
percobaan 2												
Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	0	0	0	0	0	0	0	0	0	0	0	0
0.3	0	0	0	0	0	0	0	0	0	0	0	0
0.4	0	0	0	0	0	0	0	0	0	0	0	0
0.5	0	0	0	0	0	0	0	0	0	0	0	0
0.6	0	0	0	0	0	0	0	0	0	0	0	0
0.7	2	0	1	0	0.00977	0	0.00488	0	133.392	0	66.6958	0
0.8	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
0.9	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
1	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
1.1	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
1.2	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
1.3	0	0	0	0	0	0	0	0	0	0	0	0
1.4	0	0	0	0	0	0	0	0	0	0	0	0
1.5	2	0	1	0	0.00977	0	0.00488	0	133.392	0	66.6958	0
1.6	0	0	0	0	0	0	0	0	0	0	0	0
1.7	0	0	0	0	0	0	0	0	0	0	0	0
1.8	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
1.9	2	0	1	0	0.00977	0	0.00488	0	133.392	0	66.6958	0
2	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
2.1	0	0	0	2	0	0	0	0.00977	0	0	0	133.392
2.2	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
2.3	0	2	0	0	0	0.00977	0	0	0	133.392	0	0
2.4	1	0	1	0	0.00488	0	0.00488	0	66.6958	0	66.6958	0
2.5	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
		2	0	0	0	0.00977	0	0	0	133.392	0	0
		0	0	1	0	0	0	0.00488	0	0	0	66.6958
		0	0	0	0.01465	0	0	0	200.087	0	0	0
		0	1	0	0.01953	0	0.00488	0	266.783	0	66.6958	0
		0	0	0	0.01465	0	0	0	200.087	0	0	0
		0	1	0	0.01465	0	0.00488	0	200.087	0	66.6958	0



percobaan 2												
Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
3.2	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
3.3	3	0	1	0	0.01465	0	0.00488	0	200.087	0	66.6958	0
3.4	2	0	0	0	0.00977	0	0	0	133.392	0	0	0
3.5	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
3.6	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
3.7	3	0	1	0	0.01465	0	0.00488	0	200.087	0	66.6958	0
3.8	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
3.9	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
4	1	2	0	0	0.00488	0.00977	0	0	66.6958	133.392	0	0
4.1	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
4.2	2	0	0	0	0.00977	0	0	0	133.392	0	0	0
4.3	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
4.4	0	0	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958
4.5	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
4.6	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
4.7	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
4.8	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
4.9	0	0	0	0	0	0	0	0	0	0	0	0
5	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
5.1	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
5.2	0	0	0	0	0	0	0	0	0	0	0	0
5.3	0	0	0	0	0	0	0	0	0	0	0	0
5.4	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
5.5	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
5.6	3	0	1	0	0.01465	0	0.00488	0	200.087	0	66.6958	0
5.7	4	0	1	0	0.01953	0	0.00488	0	266.783	0	66.6958	0
5.8	2	0	0	0	0.00977	0	0	0	133.392	0	0	0
5.9	1	0	0	1	0.00488	0	0	0.00488	66.6958	0	0	66.6958
6	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
6.1	0	0	0	0	0	0	0	0	0	0	0	0
6.2	3	0	1	0	0.01465	0	0.00488	0	200.087	0	66.6958	0
6.3	0	0	0	0	0	0	0	0	0	0	0	0
6.4	0	0	0	0	0	0	0	0	0	0	0	0
6.5	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
6.6	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
6.7	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
6.8	1	2	0	0	0.00488	0.00977	0	0	66.6958	133.392	0	0
6.9	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
7.1	0	0	0	0	0	0	0	0	0	0	0	0
7.2	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
7.3	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
7.4	2	0	0	0	0.00977	0	0	0	133.392	0	0	0
7.5	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
7.6	2	0	0	0	0.00977	0	0	0	133.392	0	0	0
7.7	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
7.8	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
		2	0	0	0.00488	0.00977	0	0	66.6958	133.392	0	0
		2	0	0	0.00488	0.00977	0	0	66.6958	133.392	0	0
		0	0	0	0	0	0	0	0	0	0	0
		0	0	1	0	0	0	0.00488	0	0	0	66.6958
		0	0	0	0.01465	0	0	0	200.087	0	0	0
		0	0	0	0	0	0	0	0	0	0	0

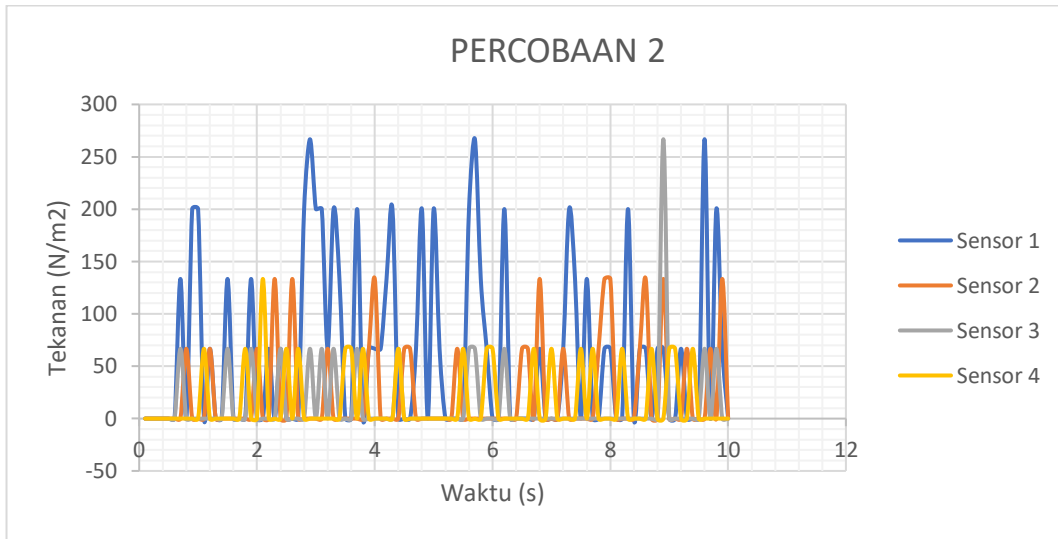


percobaan 2												
Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
8.5	1	1	0	0	0.00488	0.00488	0	0	66.6958	66.6958	0	0
8.6	1	2	0	0	0.00488	0.00977	0	0	66.6958	133.392	0	0
8.7	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
8.8	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
8.9	1	2	4	0	0.00488	0.00977	0.01953	0	66.6958	133.392	266.783	0
9	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
9.1	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
9.2	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
9.3	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
9.4	0	0	0	1	0	0	0	0.00488	0	0	0	66.6958
9.5	0	0	0	0	0	0	0	0	0	0	0	0
9.6	4	0	1	0	0.01953	0	0.00488	0	266.783	0	66.6958	0
9.7	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
9.8	3	0	1	0	0.01465	0	0.00488	0	200.087	0	66.6958	0
9.9	1	2	0	0	0.00488	0.00977	0	0	66.6958	133.392	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
Tekanan Rata-rata									134.842	91.7068	80.035	69.8718



Grafik Percobaan 1 kecepatan 0,732 m/s





Grafik Percobaan 2 kecepatan 0,732 m/s

Nilai rata-rata tekanan model pada percobaan 1 dan percobaan 2 pada kecepatan 0,732 m/s dapat dilihat pada tabel berikut

	0.732 m/s			
	Sensor1	Sensor 2	Sensor 3	Sensor 4
perc1 (N/m ²)	152.1133	122.2757	94.48576	88.92778
perc 2 (N/m ²)	134.8416	91.70677	80.035	69.87182
Tekanan (N/m ²)	143.4774	106.9912	87.26038	79.3998

Tekanan pada Kecepatan 0,976 m/s

1. Percobaan 1 kecepatan 0,976 m/s

Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	10	5	0	0	0.049	0.024	0	0	667	333.5	0	0
0.3	3	0	0	0	0.015	0	0	0	200.1	0	0	0
0.4	0	0	5	0	0	0	0.024	0	0	0	333.5	0
0.5	0	2	0	0	0	0.01	0	0	0	133.4	0	0
0.6	4	8	0	0	0.02	0.039	0	0	266.8	533.6	0	0
0.7	9	4	0	0	0.044	0.02	0	0	600.3	266.8	0	0
0.8	6	1	0	2	0.029	0.005	0	0.01	400.2	66.7	0	133.4
0.9	2	0	1	0	0.01	0	0.005	0	133.4	0	66.7	0
1	3	0	6	0	0.015	0	0.029	0	200.1	0	400.2	0
		0	0	0	0.01	0	0	0	133.4	0	0	0
		7	0	0	0.02	0.034	0	0	266.8	466.9	0	0
		4	0	0	0.015	0.02	0	0	200.1	266.8	0	0
		3	0	0	0.005	0.015	0	0	66.7	200.1	0	0
		5	0	0	0.044	0.024	0	0	600.3	333.5	0	0
		0	0	0	0	0	0	0	0	0	0	0



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
1.7	0	0	0	0	0	0	0	0	0	0	0	0
1.8	8	2	0	0	0.039	0.01	0	0	533.6	133.4	0	0
1.9	2	4	0	0	0.01	0.02	0	0	133.4	266.8	0	0
2	4	0	1	0	0.02	0	0.005	0	266.8	0	66.7	0
2.1	1	7	0	0	0.005	0.034	0	0	66.7	466.9	0	0
2.2	6	7	0	0	0.029	0.034	0	0	400.2	466.9	0	0
2.3	0	0	5	1	0	0	0.024	0.005	0	0	333.5	66.7
2.4	7	0	1	0	0.034	0	0.005	0	466.9	0	66.7	0
2.5	0	1	0	0	0	0.005	0	0	0	66.7	0	0
2.6	8	9	1	0	0.039	0.044	0.005	0	533.6	600.3	66.7	0
2.7	2	0	0	0	0.01	0	0	0	133.4	0	0	0
2.8	0	9	0	0	0	0.044	0	0	0	600.3	0	0
2.9	6	5	0	0	0.029	0.024	0	0	400.2	333.5	0	0
3	2	1	5	0	0.01	0.005	0.024	0	133.4	66.7	333.5	0
3.1	2	7	2	0	0.01	0.034	0.01	0	133.4	466.9	133.4	0
3.2	3	0	2	0	0.015	0	0.01	0	200.1	0	133.4	0
3.3	0	0	0	1	0	0	0	0.005	0	0	0	66.7
3.4	0	7	0	0	0	0.034	0	0	0	466.9	0	0
3.5	0	7	2	0	0	0.034	0.01	0	0	466.9	133.4	0
3.6	7	0	0	0	0.034	0	0	0	466.9	0	0	0
3.7	9	1	1	0	0.044	0.005	0.005	0	600.3	66.7	66.7	0
3.8	0	4	0	0	0	0.02	0	0	0	266.8	0	0
3.9	2	0	3	0	0.01	0	0.015	0	133.4	0	200.1	0
4	4	0	0	0	0.02	0	0	0	266.8	0	0	0
4.1	2	6	2	0	0.01	0.029	0.01	0	133.4	400.2	133.4	0
4.2	9	6	0	0	0.044	0.029	0	0	600.3	400.2	0	0
4.3	0	0	0	1	0	0	0	0.005	0	0	0	66.7
4.4	6	1	0	0	0.029	0.005	0	0	400.2	66.7	0	0
4.5	1	2	1	0	0.005	0.01	0.005	0	66.7	133.4	66.7	0
4.6	5	0	0	0	0.024	0	0	0	333.5	0	0	0
4.7	1	0	0	0	0.005	0	0	0	66.7	0	0	0
4.8	1	0	0	0	0.005	0	0	0	66.7	0	0	0
4.9	2	4	0	0	0.01	0.02	0	0	133.4	266.8	0	0
5	5	1	0	0	0.024	0.005	0	0	333.5	66.7	0	0
5.1	3	1	0	0	0.015	0.005	0	0	200.1	66.7	0	0
5.2	1	0	0	3	0.005	0	0	0.015	66.7	0	0	200.1
5.3	2	6	0	1	0.01	0.029	0	0.005	133.4	400.2	0	66.7
5.4	4	0	0	0	0.02	0	0	0	266.8	0	0	0
5.5	1	1	0	0	0.005	0.005	0	0	66.7	66.7	0	0
5.6	1	0	0	0	0.005	0	0	0	66.7	0	0	0
5.7	5	0	0	0	0.024	0	0	0	333.5	0	0	0
5.8	1	0	0	4	0.005	0	0	0.02	66.7	0	0	266.8
5.9	0	0	0	0	0	0	0	0	0	0	0	0
6	4	0	0	0	0.02	0	0	0	266.8	0	0	0
6.1	10	3	0	1	0.049	0.015	0	0.005	667	200.1	0	66.7
6.2	5	1	1	0	0.024	0.005	0.005	0	333.5	66.7	66.7	0
6.3	0	0	5	1	0	0	0.024	0.005	0	0	333.5	66.7
6.4	8	1	0	3	0.039	0.005	0	0.015	533.6	66.7	0	200.1
		2	0	1	0.01	0.01	0	0.005	133.4	133.4	0	66.7
		0	0	0	0.015	0	0	0	200.1	0	0	0
		3	0	0	0	0.015	0	0	0	200.1	0	0
		5	0	0	0	0.024	0	0	0	333.5	0	0
		0	0	0	0.044	0	0	0	600.3	0	0	0
		5	0	0	0.01	0.024	0	0	133.4	333.5	0	0



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
7.1	0	1	1	0	0	0.005	0.005	0	0	66.7	66.7	0
7.2	5	1	8	0	0.024	0.005	0.039	0	333.5	66.7	533.6	0
7.3	6	0	10	0	0.029	0	0.049	0	400.2	0	667	0
7.4	6	0	4	1	0.029	0	0.02	0.005	400.2	0	266.8	66.7
7.5	9	1	0	0	0.044	0.005	0	0	600.3	66.7	0	0
7.6	6	0	1	0	0.029	0	0.005	0	400.2	0	66.7	0
7.7	9	2	0	0	0.044	0.01	0	0	600.3	133.4	0	0
7.8	1	0	0	0	0.005	0	0	0	66.7	0	0	0
7.9	2	6	0	0	0.01	0.029	0	0	133.4	400.2	0	0
8	5	2	0	0	0.024	0.01	0	0	333.5	133.4	0	0
8.1	7	0	0	0	0.034	0	0	0	466.9	0	0	0
8.2	3	1	0	0	0.015	0.005	0	0	200.1	66.7	0	0
8.3	5	0	0	0	0.024	0	0	0	333.5	0	0	0
8.4	6	4	0	2	0.029	0.02	0	0.01	400.2	266.8	0	133.4
8.5	4	1	0	0	0.02	0.005	0	0	266.8	66.7	0	0
8.6	2	7	0	0	0.01	0.034	0	0	133.4	466.9	0	0
8.7	1	0	0	1	0.005	0	0	0.005	66.7	0	0	66.7
8.8	3	0	2	0	0.015	0	0.01	0	200.1	0	133.4	0
8.9	4	9	0	0	0.02	0.044	0	0	266.8	600.3	0	0
9	8	5	2	0	0.039	0.024	0.01	0	533.6	333.5	133.4	0
9.1	0	0	0	3	0	0	0	0.015	0	0	0	200.1
9.2	1	4	0	1	0.005	0.02	0	0.005	66.7	266.8	0	66.7
9.3	1	3	0	0	0.005	0.015	0	0	66.7	200.1	0	0
9.4	3	0	0	0	0.015	0	0	0	200.1	0	0	0
9.5	2	1	6	0	0.01	0.005	0.029	0	133.4	66.7	400.2	0
9.6	0	1	0	0	0	0.005	0	0	0	66.7	0	0
9.7	1	3	0	0	0.005	0.015	0	0	66.7	200.1	0	0
9.8	0	0	0	0	0	0	0	0	0	0	0	0
9.9	1	5	0	0	0.005	0.024	0	0	66.7	333.5	0	0
10	1	5	0	0	0.005	0.024	0	0	66.7	333.5	0	0
Tekanan Rata-rata (N/m ²)									273.53	252.98	208.09	112.54
									7	4	1	9

2. Percobaan 2 kecepatan 0,976 m/s

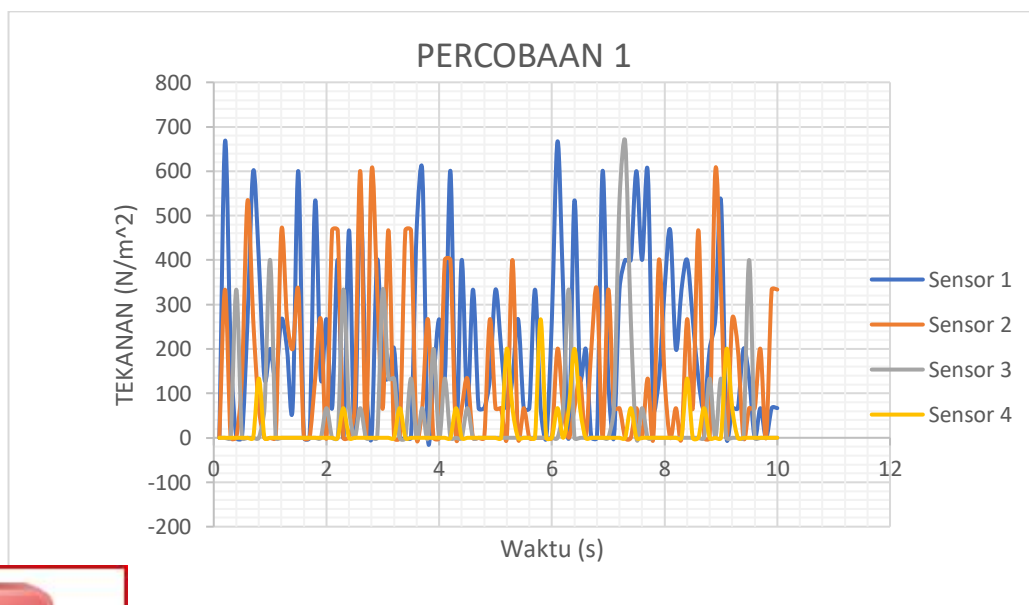
Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	2	4	0	0	0.01	0.02	0	0	133.4	266.8	0	0
0.2	0	0	0	0	0	0	0	0	0	0	0	0
0.3	7	4	0	0	0.034	0.02	0	0	466.9	266.8	0	0
0.4	7	5	5	0	0.034	0.024	0.024	0	466.9	333.5	333.5	0
0.5	1	0	0	0	0.005	0	0	0	66.7	0	0	0
0.6	5	0	0	2	0.024	0	0	0.01	333.5	0	0	133.4
0.7	6	1	0	0	0.029	0.005	0	0	400.2	66.7	0	0
0.8	7	0	0	0	0.034	0	0	0	466.9	0	0	0
0.9	4	2	1	0	0.02	0.01	0.005	0	266.8	133.4	66.7	0
		0	6	0	0.005	0	0.029	0	66.7	0	400.2	0
		2	0	0	0.015	0.01	0	0	200.1	133.4	0	0
		0	0	0	0.024	0	0	0	333.5	0	0	0
		1	0	0	0	0.005	0	0	0	66.7	0	0
		4	0	0	0.005	0.02	0	0	66.7	266.8	0	0
		3	0	0	0.015	0.015	0	0	200.1	200.1	0	0



1.6	1	1	0	0	0.005	0.005	0	0	66.7	66.7	0	0
1.7	3	0	0	0	0.015	0	0	0	200.1	0	0	0
1.8	0	0	0	0	0	0	0	0	0	0	0	0
1.9	8	5	0	0	0.039	0.024	0	0	533.6	333.5	0	0
2	5	0	1	0	0.024	0	0.005	0	333.5	0	66.7	0
2.1	0	0	0	1	0	0	0	0.005	0	0	0	66.7
2.2	0	0	0	0	0	0	0	0	0	0	0	0
2.3	3	7	5	0	0.015	0.034	0.024	0	200.1	466.9	333.5	0
2.4	5	4	1	0	0.024	0.02	0.005	0	333.5	266.8	66.7	0
2.5	0	1	0	0	0	0.005	0	0	0	66.7	0	0
2.6	4	0	1	0	0.02	0	0.005	0	266.8	0	66.7	0
2.7	3	4	0	0	0.015	0.02	0	0	200.1	266.8	0	0
2.8	0	0	0	0	0	0	0	0	0	0	0	0
2.9	3	4	0	0	0.015	0.02	0	0	200.1	266.8	0	0
3	0	1	5	0	0	0.005	0.024	0	0	66.7	333.5	0
3.1	5	7	2	1	0.024	0.034	0.01	0.005	333.5	466.9	133.4	66.7
3.2	0	0	2	0	0	0	0.01	0	0	0	133.4	0
3.3	5	0	0	0	0.024	0	0	0	333.5	0	0	0
3.4	5	0	0	0	0.024	0	0	0	333.5	0	0	0
3.5	3	5	2	0	0.015	0.024	0.01	0	200.1	333.5	133.4	0
3.6	0	0	0	0	0	0	0	0	0	0	0	0
3.7	4	1	1	0	0.02	0.005	0.005	0	266.8	66.7	66.7	0
3.8	1	1	0	0	0.005	0.005	0	0	66.7	66.7	0	0
3.9	2	2	3	0	0.01	0.01	0.015	0	133.4	133.4	200.1	0
4	0	0	0	0	0	0	0	0	0	0	0	0
4.1	0	0	2	1	0	0	0.01	0.005	0	0	133.4	66.7
4.2	7	3	0	0	0.034	0.015	0	0	466.9	200.1	0	0
4.3	3	6	0	0	0.015	0.029	0	0	200.1	400.2	0	0
4.4	2	0	0	0	0.01	0	0	0	133.4	0	0	0
4.5	0	0	1	0	0	0	0.005	0	0	0	66.7	0
4.6	2	5	0	0	0.01	0.024	0	0	133.4	333.5	0	0
4.7	3	2	0	0	0.015	0.01	0	0	200.1	133.4	0	0
4.8	3	2	0	0	0.015	0.01	0	0	200.1	133.4	0	0
4.9	0	0	0	0	0	0	0	0	0	0	0	0
5	2	2	0	3	0.01	0.01	0	0.015	133.4	133.4	0	200.1
5.1	6	0	0	1	0.029	0	0	0.005	400.2	0	0	66.7
5.2	0	0	0	0	0	0	0	0	0	0	0	0
5.3	0	0	0	0	0	0	0	0	0	0	0	0
5.4	3	3	0	0	0.015	0.015	0	0	200.1	200.1	0	0
5.5	1	1	0	0	0.005	0.005	0	0	66.7	66.7	0	0
5.6	4	0	0	0	0.02	0	0	0	266.8	0	0	0
5.7	0	0	0	4	0	0	0	0.02	0	0	0	266.8
5.8	0	5	0	0	0	0.024	0	0	0	333.5	0	0
5.9	1	0	0	1	0.005	0	0	0.005	66.7	0	0	66.7
6	1	0	0	0	0.005	0	0	0	66.7	0	0	0
6.1	4	4	0	1	0.02	0.02	0	0.005	266.8	266.8	0	66.7
6.2	8	3	1	0	0.039	0.015	0.005	0	533.6	200.1	66.7	0
6.3	5	5	5	1	0.024	0.024	0.024	0.005	333.5	333.5	333.5	66.7
6.4	5	1	0	0	0.024	0.005	0	0	333.5	66.7	0	0
6.5	5	0	0	0	0.024	0	0	0	333.5	0	0	0
6.6	5	2	0	0	0.024	0.01	0	0	333.5	133.4	0	0
		0	0	3	0.024	0	0	0.015	333.5	0	0	200.1
		0	10	0	0	0	0.049	0	0	0	66.7	0
		1	0	0	0	0.005	0	0	0	66.7	0	0
		7	0	0	0.034	0.034	0	0	466.9	466.9	0	0
		0	1	0	0.024	0	0.005	0	333.5	0	66.7	0
		0	8	1	0	0	0.039	0.005	0	0	533.6	66.7

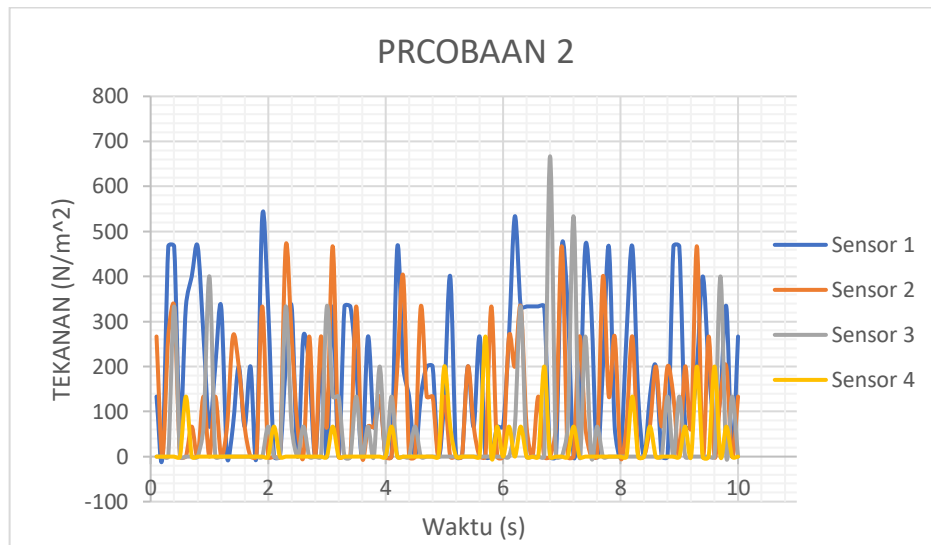


7.3	1	4	0	0	0.005	0.02	0	0	66.7	266.8	0	0
7.4	7	1	4	0	0.034	0.005	0.02	0	466.9	66.7	266.8	0
7.5	5	0	0	0	0.024	0	0	0	333.5	0	0	0
7.6	0	0	1	0	0	0	0.005	0	0	0	66.7	0
7.7	3	6	0	0	0.015	0.029	0	0	200.1	400.2	0	0
7.8	7	2	0	0	0.034	0.01	0	0	466.9	133.4	0	0
7.9	1	4	0	0	0.005	0.02	0	0	66.7	266.8	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
8.1	4	1	0	0	0.02	0.005	0	0	266.8	66.7	0	0
8.2	7	4	0	2	0.034	0.02	0	0.01	466.9	266.8	0	133.4
8.3	2	0	0	0	0.01	0	0	0	133.4	0	0	0
8.4	0	0	0	0	0	0	0	0	0	0	0	0
8.5	2	1	0	1	0.01	0.005	0	0.005	133.4	66.7	0	66.7
8.6	3	3	0	0	0.015	0.015	0	0	200.1	200.1	0	0
8.7	0	1	0	0	0	0.005	0	0	0	66.7	0	0
8.8	0	3	2	0	0	0.015	0.01	0	0	200.1	133.4	0
8.9	7	2	0	0	0.034	0.01	0	0	466.9	133.4	0	0
9	7	0	2	0	0.034	0	0.01	0	466.9	0	133.4	0
9.1	1	3	0	1	0.005	0.015	0	0.005	66.7	200.1	0	66.7
9.2	1	1	0	0	0.005	0.005	0	0	66.7	66.7	0	0
9.3	3	7	0	3	0.015	0.034	0	0.015	200.1	466.9	0	200.1
9.4	6	0	0	0	0.029	0	0	0	400.2	0	0	0
9.5	3	4	0	0	0.015	0.02	0	0	200.1	266.8	0	0
9.6	1	0	0	3	0.005	0	0	0.015	66.7	0	0	200.1
9.7	2	2	6	0	0.01	0.01	0.029	0	133.4	133.4	400.2	0
9.8	5	3	0	1	0.024	0.015	0	0.005	333.5	200.1	0	66.7
9.9	0	0	2	0	0	0	0.01	0	0	0	133.4	0
10	4	2	0	0	0.02	0.01	0	0	266.8	133.4	0	0
Tekanan Rata-rata (N/m ²)									256.733	204.768	205.218	114.865



Grafik Percobaan 1 kecepatan 0,976 m/s





Grafik Percobaan 2 kecepatan 0,976 m/s

Berdasarkan grafik percobaan 1 dan 2 dapat dilihat nilai rata-rata tekanan setiap sensor seperti pada tabel berikut.

Tabel nilai rata-rata tekanan setiap sensor

	0.976 m/s			
	Sensor1	Sensor 2	Sensor 3	Sensor 4
perc1 (N/m ²)	273.5373	252.9842	208.091	112.5492
perc 2 (N/m ²)	256.7333	204.7679	205.2179	114.865
Tekanan (N/m ²)	265.1353	228.876	206.6545	113.7071

Tekanan pada Kecepatan 1,22 m/s

1. Percobaan 1 kecepatan model 1,22 m/s

Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	30	9	0	5	0.1465	0.0439	0	0.0244	2000.9	600.26	0	333.48
0.3	2	5	1	6	0.0098	0.0244	0.0049	0.0293	133.39	333.48	66.696	400.17
0.4	0	2	3	0	0	0.0098	0.0146	0	0	133.39	200.09	0
0.5	28	6	0	3	0.1367	0.0293	0	0.0146	1867.5	400.17	0	200.09
0.6	11	5	2	0	0.0537	0.0244	0.0098	0	733.65	333.48	133.39	0
0.7	4	6	3	0	0.0195	0.0293	0.0146	0	266.78	400.17	200.09	0
0.8	0	2	0	0	0	0.0098	0	0	0	133.39	0	0
0.9	6	1	0	0	0.0293	0.0049	0	0	400.17	66.696	0	0
1.0	5	1	0	0	0.0293	0.0049	0	0	400.17	66.696	0	0
1.1	4	7	0	0	0.0684	0.0342	0	0	933.74	466.87	0	0
1.2	3	7	1	0	0.0146	0.0342	0.0049	0	200.09	466.87	66.696	0
1.3	0	0	0	0	0.0342	0	0	0	466.87	0	0	0
1.4	0	6	0	8	0	0.0293	0	0.0391	0	400.17	0	533.57
1.5	2	3	0	0	0.1123	0.0098	0.0146	0	1534	133.39	200.09	0



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
1.6	1	5	0	0	0.0049	0.0244	0	0	66.696	333.48	0	0
1.7	0	3	0	0	0	0.0146	0	0	0	200.09	0	0
1.8	0	1	4	0	0	0.0049	0.0195	0	0	66.696	266.78	0
1.9	15	1	5	0	0.0732	0.0049	0.0244	0	1000.4	66.696	333.48	0
2	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
2.1	12	1	0	0	0.0586	0.0049	0	0	800.35	66.696	0	0
2.2	3	8	2	0	0.0146	0.0391	0.0098	0	200.09	533.57	133.39	0
2.3	0	6	1	0	0	0.0293	0.0049	0	0	400.17	66.696	0
2.4	8	1	0	0	0.0391	0.0049	0	0	533.57	66.696	0	0
2.5	9	0	0	0	0.0439	0	0	0	600.26	0	0	0
2.6	4	4	3	0	0.0195	0.0195	0.0146	0	266.78	266.78	200.09	0
2.7	2	9	3	0	0.0098	0.0439	0.0146	0	133.39	600.26	200.09	0
2.8	16	2	1	1	0.0781	0.0098	0.0049	0.0049	1067.1	133.39	66.696	66.696
2.9	0	3	0	1	0	0.0146	0	0.0049	0	200.09	0	66.696
3	7	8	2	0	0.0342	0.0391	0.0098	0	466.87	533.57	133.39	0
3.1	9	6	12	0	0.0439	0.0293	0.0586	0	600.26	400.17	800.35	0
3.2	15	0	5	0	0.0732	0	0.0244	0	1000.4	0	333.48	0
3.3	0	0	0	0	0	0	0	0	0	0	0	0
3.4	0	4	4	1	0	0.0195	0.0195	0.0049	0	266.78	266.78	66.696
3.5	3	2	3	0	0.0146	0.0098	0.0146	0	200.09	133.39	200.09	0
3.6	10	6	1	0	0.0488	0.0293	0.0049	0	666.96	400.17	66.696	0
3.7	6	3	6	2	0.0293	0.0146	0.0293	0.0098	400.17	200.09	400.17	133.39
3.8	0	3	5	0	0	0.0146	0.0244	0	0	200.09	333.48	0
3.9	7	2	0	0	0.0342	0.0098	0	0	466.87	133.39	0	0
4	0	5	10	1	0	0.0244	0.0488	0.0049	0	333.48	666.96	66.696
4.1	0	0	0	0	0	0	0	0	0	0	0	0
4.2	12	0	0	0	0.0586	0	0	0	800.35	0	0	0
4.3	0	0	14	4	0	0	0.0684	0.0195	0	0	933.74	266.78
4.4	0	5	0	5	0	0.0244	0	0.0244	0	333.48	0	333.48
4.5	3	8	0	0	0.0146	0.0391	0	0	200.09	533.57	0	0
4.6	10	0	0	0	0.0488	0	0	0	666.96	0	0	0
4.7	3	0	12	2	0.0146	0	0.0586	0.0098	200.09	0	800.35	133.39
4.8	5	0	0	0	0.0244	0	0	0	333.48	0	0	0
4.9	3	5	0	0	0.0146	0.0244	0	0	200.09	333.48	0	0
5	1	4	12	1	0.0049	0.0195	0.0586	0.0049	66.696	266.78	800.35	66.696
5.1	6	3	0	0	0.0293	0.0146	0	0	400.17	200.09	0	0
5.2	3	3	0	4	0.0146	0.0146	0	0.0195	200.09	200.09	0	266.78
5.3	1	0	10	0	0.0049	0	0.0488	0	66.696	0	666.96	0
5.4	6	8	0	0	0.0293	0.0391	0	0	400.17	533.57	0	0
5.5	4	4	0	0	0.0195	0.0195	0	0	266.78	266.78	0	0
5.6	8	3	0	0	0.0391	0.0146	0	0	533.57	200.09	0	0
5.7	1	4	8	0	0.0049	0.0195	0.0391	0	66.696	266.78	533.57	0
5.8	2	5	2	1	0.0098	0.0244	0.0098	0.0049	133.39	333.48	133.39	66.696
5.9	4	2	0	0	0.0195	0.0098	0	0	266.78	133.39	0	0
6	3	7	3	0	0.0146	0.0342	0.0146	0	200.09	466.87	200.09	0
6.1	8	6	5	5	0.0391	0.0293	0.0244	0.0244	533.57	400.17	333.48	333.48
6.2	5	0	3	6	0.0244	0	0.0146	0.0293	333.48	0	200.09	400.17
6.3	2	0	0	3	0.0098	0	0	0.0146	133.39	0	0	200.09
		3	0	0	0.0049	0.0146	0	0	66.696	200.09	0	0
		9	8	0	0.0098	0.0439	0.0391	0	133.39	600.26	533.57	0
		3	6	0	0.0195	0.0146	0.0293	0	266.78	200.09	400.17	0
		8	0	5	0.0049	0.0391	0	0.0244	66.696	533.57	0	333.48
		2	0	0	0.0244	0.0098	0	0	333.48	133.39	0	0
		8	0	0	0.0049	0.0391	0	0	66.696	533.57	0	0



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
7	3	0	7	5	0.0146	0	0.0342	0.0244	200.09	0	466.87	333.48
7.1	1	6	0	0	0.0049	0.0293	0	0	66.696	400.17	0	0
7.2	9	4	0	0	0.0439	0.0195	0	0	600.26	266.78	0	0
7.3	6	0	0	0	0.0293	0	0	0	400.17	0	0	0
7.4	2	2	1	1	0.0098	0.0098	0.0049	0.0049	133.39	133.39	66.696	66.696
7.5	2	2	3	0	0.0098	0.0098	0.0146	0	133.39	133.39	200.09	0
7.6	5	9	0	1	0.0244	0.0439	0	0.0049	333.48	600.26	0	66.696
7.7	8	3	1	0	0.0391	0.0146	0.0049	0	533.57	200.09	66.696	0
7.8	5	0	4	0	0.0244	0	0.0195	0	333.48	0	266.78	0
7.9	2	4	0	5	0.0098	0.0195	0	0.0244	133.39	266.78	0	333.48
8	7	6	0	6	0.0342	0.0293	0	0.0293	466.87	400.17	0	400.17
8.1	1	0	1	3	0.0049	0	0.0049	0.0146	66.696	0	66.696	200.09
8.2	4	8	1	0	0.0195	0.0391	0.0049	0	266.78	533.57	66.696	0
8.3	1	7	0	0	0.0049	0.0342	0	0	66.696	466.87	0	0
8.4	2	7	2	0	0.0098	0.0342	0.0098	0	133.39	466.87	133.39	0
8.5	2	0	5	4	0.0098	0	0.0244	0.0195	133.39	0	333.48	266.78
8.6	5	6	0	1	0.0244	0.0293	0	0.0049	333.48	400.17	0	66.696
8.7	1	0	3	0	0.0049	0	0.0146	0	66.696	0	200.09	0
8.8	2	0	0	4	0.0098	0	0	0.0195	133.39	0	0	266.78
8.9	2	2	0	3	0.0098	0.0098	0	0.0146	133.39	133.39	0	200.09
9	5	4	3	0	0.0244	0.0195	0.0146	0	333.48	266.78	200.09	0
9.1	7	4	7	0	0.0342	0.0195	0.0342	0	466.87	266.78	466.87	0
9.2	1	2	4	3	0.0049	0.0098	0.0195	0.0146	66.696	133.39	266.78	200.09
9.3	1	2	0	3	0.0049	0.0098	0	0.0146	66.696	133.39	0	200.09
9.4	1	3	0	1	0.0049	0.0146	0	0.0049	66.696	200.09	0	66.696
9.5	3	8	0	0	0.0146	0.0391	0	0	200.09	533.57	0	0
9.6	6	0	5	0	0.0293	0	0.0244	0	400.17	0	333.48	0
9.7	7	2	0	0	0.0342	0.0098	0	0	466.87	133.39	0	0
9.8	9	3	1	0	0.0439	0.0146	0.0049	0	600.26	200.09	66.696	0
9.9	2	2	2	0	0.0098	0.0098	0.0098	0	133.39	133.39	133.39	0
10	6	0	1	0	0.0293	0	0.0049	0	400.17	0	66.696	0
Tekanan Rata-rata (N/m ²)									383.501	293.635	285.458	216.761

2. Percobaan 2 kecepatan model 1,22 m/s

Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	1	1	0	0	0.0049	0.0049	0	0	66.696	66.696	0
0.2	1	1	3	0	0.0049	0.0049	0.0146	0	66.696	66.696	200.09	0
0.3	11	3	5	0	0.0537	0.0146	0.0244	0	733.65	200.09	333.48	0
0.4	0	8	6	0	0	0.0391	0.0293	0	0	533.57	400.17	0
0.5	0	4	4	1	0	0.0195	0.0195	0.0049	0	266.78	266.78	66.696
0.6	10	2	0	2	0.0488	0.0098	0	0.0098	666.96	133.39	0	133.39
0.7	0	6	0	0	0	0.0293	0	0	0	400.17	0	0
0.8	4	1	2	0	0.0195	0.0049	0.0098	0	266.78	66.696	133.39	0
0.9	4	6	1	0	0.0195	0.0293	0.0049	0	266.78	400.17	66.696	0
1	3	4	1	0	0.0635	0.0195	0.0049	0	867.05	266.78	66.696	0
2	0	8	2	0	0	0.0391	0.0098	0	0	533.57	133.39	0
3	2	0	0	0	0.0098	0	0	0	133.39	0	0	0
4	0	3	1	3	0	0.0146	0.0049	0.0146	0	200.09	66.696	200.09
5	0	11	6	2	0	0.0537	0.0293	0.0098	0	733.65	400.17	133.39
6	3	0	5	0	0.0391	0	0.0244	0	533.57	0	333.48	0

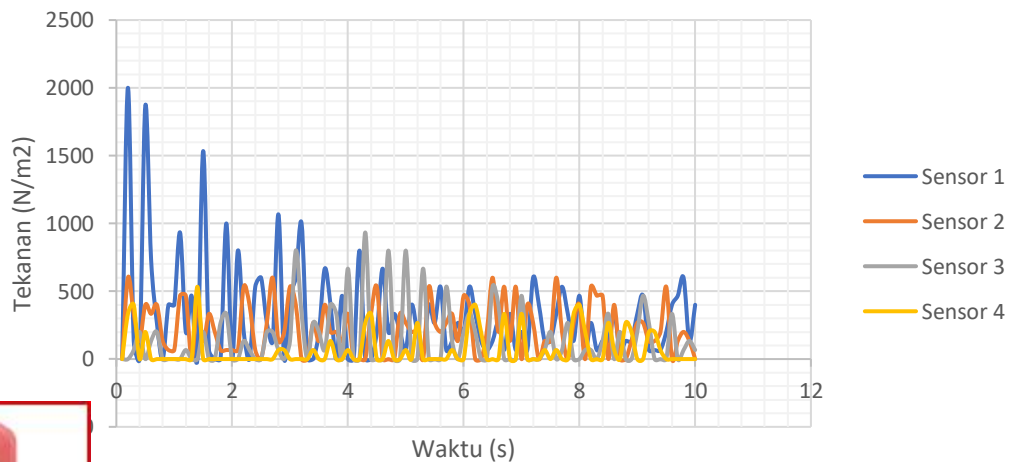


Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
1.6	0	4	4	0	0	0.0195	0.0195	0	0	266.78	266.78	0
1.7	0	0	1	0	0	0	0.0049	0	0	0	66.696	0
1.8	2	5	0	0	0.0098	0.0244	0	0	133.39	333.48	0	0
1.9	1	7	0	5	0.0049	0.0342	0	0.0244	66.696	466.87	0	333.48
2	8	1	0	6	0.0391	0.0049	0	0.0293	533.57	66.696	0	400.17
2.1	0	6	0	0	0	0.0293	0	0	0	400.17	0	0
2.2	0	8	1	3	0	0.0391	0.0049	0.0146	0	533.57	66.696	200.09
2.3	0	9	4	0	0	0.0439	0.0195	0	0	600.26	266.78	0
2.4	4	4	0	0	0.0195	0.0195	0	0	266.78	266.78	0	0
2.5	1	4	0	0	0.0049	0.0195	0	0	66.696	266.78	0	0
2.6	0	0	0	0	0	0	0	0	0	0	0	0
2.7	15	8	0	0	0.0732	0.0391	0	0	1000.4	533.57	0	0
2.8	0	8	5	0	0	0.0391	0.0244	0	0	533.57	333.48	0
2.9	1	7	1	0	0.0049	0.0342	0.0049	0	66.696	466.87	66.696	0
3	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
3.1	0	3	5	1	0	0.0146	0.0244	0.0049	0	200.09	333.48	66.696
3.2	5	0	0	2	0.0244	0	0	0.0098	333.48	0	0	133.39
3.3	2	5	0	4	0.0098	0.0244	0	0.0195	133.39	333.48	0	266.78
3.4	6	10	1	0	0.0293	0.0488	0.0049	0	400.17	666.96	66.696	0
3.5	9	10	6	3	0.0439	0.0488	0.0293	0.0146	600.26	666.96	400.17	200.09
3.6	0	10	1	4	0	0.0488	0.0049	0.0195	0	666.96	66.696	266.78
3.7	0	0	0	5	0	0	0	0.0244	0	0	0	333.48
3.8	4	0	4	0	0.0195	0	0.0195	0	266.78	0	266.78	0
3.9	5	1	3	0	0.0244	0.0049	0.0146	0	333.48	66.696	200.09	0
4	0	6	0	2	0	0.0293	0	0.0098	0	400.17	0	133.39
4.1	0	9	0	0	0	0.0439	0	0	0	600.26	0	0
4.2	10	3	0	0	0.0488	0.0146	0	0	666.96	200.09	0	0
4.3	0	3	1	1	0	0.0146	0.0049	0.0049	0	200.09	66.696	66.696
4.4	0	2	0	0	0	0.0098	0	0	0	133.39	0	0
4.5	0	2	0	4	0	0.0098	0	0.0195	0	133.39	0	266.78
4.6	7	6	2	1	0.0342	0.0293	0.0098	0.0049	466.87	400.17	133.39	66.696
4.7	1	9	6	0	0.0049	0.0439	0.0293	0	66.696	600.26	400.17	0
4.8	9	0	0	0	0.0439	0	0	0	600.26	0	0	0
4.9	0	8	0	0	0	0.0391	0	0	0	533.57	0	0
5	0	2	1	0	0	0.0098	0.0049	0	0	133.39	66.696	0
5.1	2	7	0	5	0.0098	0.0342	0	0.0244	133.39	466.87	0	333.48
5.2	0	5	5	6	0	0.0244	0.0244	0.0293	0	333.48	333.48	400.17
5.3	0	7	0	3	0	0.0342	0	0.0146	0	466.87	0	200.09
5.4	0	7	4	0	0	0.0342	0.0195	0	0	466.87	266.78	0
5.5	12	0	0	0	0.0586	0	0	0	800.35	0	0	0
5.6	7	4	6	0	0.0342	0.0195	0.0293	0	466.87	266.78	400.17	0
5.7	3	4	1	5	0.0146	0.0195	0.0049	0.0244	200.09	266.78	66.696	333.48
5.8	0	2	0	0	0	0.0098	0	0	0	133.39	0	0
5.9	1	7	5	0	0.0049	0.0342	0.0244	0	66.696	466.87	333.48	0
6	11	0	5	5	0.0537	0	0.0244	0.0244	733.65	0	333.48	333.48
6.1	0	6	0	6	0	0.0293	0	0.0293	0	400.17	0	400.17
6.2	5	7	4	3	0.0244	0.0342	0.0195	0.0146	333.48	466.87	266.78	200.09
6.3	4	6	6	0	0.0195	0.0293	0.0293	0	266.78	400.17	400.17	0
		9	4	1	0	0.0439	0.0195	0.0049	0	600.26	266.78	66.696
		4	2	0	0.0439	0.0195	0.0098	0	600.26	266.78	133.39	0
		4	3	4	0.0293	0.0195	0.0146	0.0195	400.17	266.78	200.09	266.78
		6	0	3	0	0.0293	0	0.0146	0	400.17	0	200.09
		0	3	0	0	0	0.0146	0	0	0	200.09	0
		2	0	0	0.0146	0.0098	0	0	200.09	133.39	0	0



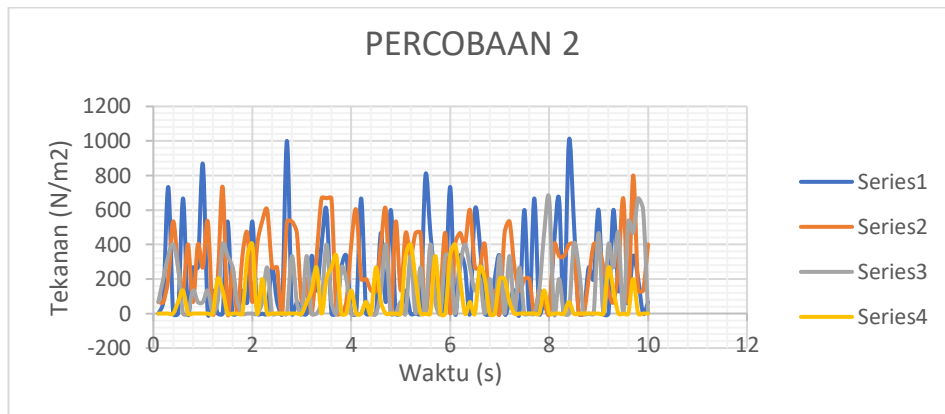
Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
7	5	0	5	3	0.0244	0	0.0244	0.0146	333.48	0	333.48	200.09
7.1	0	7	0	3	0	0.0342	0	0.0146	0	466.87	0	200.09
7.2	1	8	5	1	0.0049	0.0391	0.0244	0.0049	66.696	533.57	333.48	66.696
7.3	2	4	0	0	0.0098	0.0195	0	0	133.39	266.78	0	0
7.4	0	2	4	0	0	0.0098	0.0195	0	0	133.39	266.78	0
7.5	9	3	0	0	0.0439	0.0146	0	0	600.26	200.09	0	0
7.6	0	3	0	0	0	0.0146	0	0	0	200.09	0	0
7.7	10	0	0	0	0.0488	0	0	0	666.96	0	0	0
7.8	0	2	2	0	0	0.0098	0.0098	0	0	133.39	133.39	0
7.9	1	1	7	2	0.0049	0.0049	0.0342	0.0098	66.696	66.696	466.87	133.39
8	0	0	10	0	0	0	0.0488	0	0	0	666.96	0
8.1	6	6	0	0	0.0293	0.0293	0	0	400.17	400.17	0	0
8.2	10	5	3	0	0.0488	0.0244	0.0146	0	666.96	333.48	200.09	0
8.3	0	5	0	0	0	0.0244	0	0	0	333.48	0	0
8.4	15	6	0	1	0.0732	0.0293	0	0.0049	1000.4	400.17	0	66.696
8.5	8	6	6	0	0.0391	0.0293	0.0293	0	533.57	400.17	400.17	0
8.6	0	0	4	0	0	0	0.0195	0	0	0	266.78	0
8.7	0	0	0	0	0	0	0	0	0	0	0	0
8.8	4	3	0	0	0.0195	0.0146	0	0	266.78	200.09	0	0
8.9	3	6	0	0	0.0146	0.0293	0	0	200.09	400.17	0	0
9	9	6	7	0	0.0439	0.0293	0.0342	0	600.26	400.17	466.87	0
9.1	0	4	0	0	0	0.0195	0	0	0	266.78	0	0
9.2	0	2	6	4	0	0.0098	0.0293	0.0195	0	133.39	400.17	266.78
9.3	9	1	4	2	0.0439	0.0049	0.0195	0.0098	600.26	66.696	266.78	133.39
9.4	2	4	7	0	0.0098	0.0195	0.0342	0	133.39	266.78	466.87	0
9.5	2	10	0	0	0.0098	0.0488	0	0	133.39	666.96	0	0
9.6	1	1	8	0	0.0049	0.0049	0.0391	0	66.696	66.696	533.57	0
9.7	5	12	7	3	0.0244	0.0586	0.0342	0.0146	333.48	800.35	466.87	200.09
9.8	3	2	10	0	0.0146	0.0098	0.0488	0	200.09	133.39	666.96	0
9.9	0	2	9	0	0	0.0098	0.0439	0	0	133.39	600.26	0
10	1	6	0	0	0.0049	0.0293	0	0	66.696	400.17	0	0
Tekanan Rata-rata (N/m ²)									371.591	335.861	274.974	207.71

PERCOBAAN 1



Grafik Percobaan 1 kecepatan 1,22 m/s





Grafik Percobaan 2 kecepatan 1,22 m/s

Berdasarkan grafik percobaan 1 dan 2 dapat dilihat nilai rata-rata tekanan setiap sensor seperti pada tabel berikut.

	1.22 m/s			
	Sensor1	Sensor 2	Sensor 3	Sensor 4
perc1 (N/m ²)	383.501	293.6349	285.4582	216.7615
perc 2 (N/m ²)	371.5911	335.8612	274.974	207.7099
Tekanan (N/m ²)	377.5461	314.748	280.2161	212.2357



LAMPIRAN 4

Penentuan nilai tekanan sensor model kapal menggunakan *Hydroelastic body* setiap variasi kecepatan.

$D = 0,011 \text{ m}$, maka luas penampang lingkaran

$$A = \pi \times r^2 = 3,14 \times (0,011)^2 \text{ m} = 0,000707 \text{ m}^2$$

$$\text{Tegangan} = \frac{5v/\text{nilai data digital}}{1024} = V$$

$$\text{Jadi, Tekanan} = \frac{\text{Tegangan (V)} / 9.6503 \text{ N}}{0,000707 \text{ m}^2} = \text{N/m}^2$$

Tekanan pada kecepatan 0,732 m/s

1. Percobaan 1 pada kecepatan model 0,732 m/s

Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	2	5	0	0	0.00977	0.02441	0	0	133.392	333.479	0	0
0.3	3	2	3	0	0.01465	0.00977	0.01465	0	200.087	133.392	200.087	0
0.4	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
0.5	4	0	3	0	0.01953	0	0.01465	0	266.783	0	200.087	0
0.6	2	2	5	0	0.00977	0.00977	0.02441	0	133.392	133.392	333.479	0
0.7	3	0	3	0	0.01465	0	0.01465	0	200.087	0	200.087	0
0.8	0	0	1	0	0	0	0.00488	0	0	0	66.6958	0
0.9	3	0	6	0	0.01465	0	0.0293	0	200.087	0	400.175	0
1	4	2	3	4	0.01953	0.00977	0.01465	0.01953	266.783	133.392	200.087	266.783
1.1	4	4	1	1	0.01953	0.01953	0.00488	0.00488	266.783	266.783	66.6958	66.6958
1.2	4	0	6	0	0.01953	0	0.0293	0	266.783	0	400.175	0
1.3	1	0	4	0	0.00488	0	0.01953	0	66.6958	0	266.783	0
1.4	3	7	8	0	0.01465	0.03418	0.03906	0	200.087	466.871	533.567	0
1.5	2	2	1	0	0.00977	0.00977	0.00488	0	133.392	133.392	66.6958	0
1.6	1	3	2	0	0.00488	0.01465	0.00977	0	66.6958	200.087	133.392	0
1.7	1	0	4	0	0.00488	0	0.01953	0	66.6958	0	266.783	0
1.8	2	4	3	0	0.00977	0.01953	0.01465	0	133.392	266.783	200.087	0
1.9	3	0	8	2	0.01465	0	0.03906	0.00977	200.087	0	533.567	133.392
2	0	0	5	0	0	0	0.02441	0	0	0	333.479	0
2.1	2	0	2	0	0.00977	0	0.00977	0	133.392	0	133.392	0
2.2	2	5	1	0	0.00977	0.02441	0.00488	0	133.392	333.479	66.6958	0
2.3	4	0	2	0	0.01953	0	0.00977	0	266.783	0	133.392	0
2.4	0	0	4	0	0	0	0.01953	0	0	0	266.783	0
2.5	2	0	1	0	0.00977	0	0.00488	0	133.392	0	66.6958	0
2.6	5	6	5	2	0.02441	0.0293	0.02441	0.00977	333.479	400.175	333.479	133.392
		2	1	0	0.0293	0.00977	0.00488	0	400.175	133.392	66.6958	0
		0	3	0	0.00488	0	0.01465	0	66.6958	0	200.087	0
		3	1	0	0.00977	0.01465	0.00488	0	133.392	200.087	66.6958	0
		1	0	1	0.01465	0.00488	0	0.00488	200.087	66.6958	0	66.6958
		2	6	0	0.00488	0.00977	0.0293	0	66.6958	133.392	400.175	0
		0	2	0	0.00488	0	0.00977	0	66.6958	0	133.392	0



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
3.3	0	3	2	0	0	0.01465	0.00977	0	0	200.087	133.392	0
3.4	8	2	5	5	0.03906	0.00977	0.02441	0.02441	533.567	133.392	333.479	333.479
3.5	5	3	8	0	0.02441	0.01465	0.03906	0	333.479	200.087	533.567	0
3.6	4	0	5	0	0.01953	0	0.02441	0	266.783	0	333.479	0
3.7	1	0	2	0	0.00488	0	0.00977	0	66.6958	0	133.392	0
3.8	7	2	7	5	0.03418	0.00977	0.03418	0.02441	466.871	133.392	466.871	333.479
3.9	4	3	1	0	0.01953	0.01465	0.00488	0	266.783	200.087	66.6958	0
4	1	0	4	0	0.00488	0	0.01953	0	66.6958	0	266.783	0
4.1	0	4	1	0	0	0.01953	0.00488	0	0	266.783	66.6958	0
4.2	7	2	2	5	0.03418	0.00977	0.00977	0.02441	466.871	133.392	133.392	333.479
4.3	0	2	2	0	0	0.00977	0.00977	0	0	133.392	133.392	0
4.4	0	0	5	0	0	0	0.02441	0	0	0	333.479	0
4.5	1	0	1	0	0.00488	0	0.00488	0	66.6958	0	66.6958	0
4.6	4	1	2	1	0.01953	0.00488	0.00977	0.00488	266.783	66.6958	133.392	66.6958
4.7	1	0	2	0	0.00488	0	0.00977	0	66.6958	0	133.392	0
4.8	0	3	5	0	0	0.01465	0.02441	0	0	200.087	333.479	0
4.9	2	3	7	0	0.00977	0.01465	0.03418	0	133.392	200.087	466.871	0
5	8	2	1	6	0.03906	0.00977	0.00488	0.0293	533.567	133.392	66.6958	400.175
5.1	2	3	1	0	0.00977	0.01465	0.00488	0	133.392	200.087	66.6958	0
5.2	4	1	1	0	0.01953	0.00488	0.00488	0	266.783	66.6958	66.6958	0
5.3	0	2	3	0	0	0.00977	0.01465	0	0	133.392	200.087	0
5.4	4	2	6	3	0.01953	0.00977	0.0293	0.01465	266.783	133.392	400.175	200.087
5.5	1	0	0	0	0.00488	0	0	0	66.6958	0	0	0
5.6	0	2	0	0	0	0.00977	0	0	0	133.392	0	0
5.7	4	3	2	0	0.01953	0.01465	0.00977	0	266.783	200.087	133.392	0
5.8	7	4	6	2	0.03418	0.01953	0.0293	0.00977	466.871	266.783	400.175	133.392
5.9	5	0	2	0	0.02441	0	0.00977	0	333.479	0	133.392	0
6	0	0	2	0	0	0	0.00977	0	0	0	133.392	0
6.1	4	1	1	1	0.01953	0.00488	0.00488	0.00488	266.783	66.6958	66.6958	66.6958
6.2	8	2	0	6	0.03906	0.00977	0	0.0293	533.567	133.392	0	400.175
6.3	5	0	1	0	0.02441	0	0.00488	0	333.479	0	66.6958	0
6.4	2	2	2	0	0.00977	0.00977	0.00977	0	133.392	133.392	133.392	0
6.5	1	0	5	0	0.00488	0	0.02441	0	66.6958	0	333.479	0
6.6	4	6	0	2	0.01953	0.0293	0	0.00977	266.783	400.175	0	133.392
6.7	3	2	2	0	0.01465	0.00977	0.00977	0	200.087	133.392	133.392	0
6.8	3	0	7	0	0.01465	0	0.03418	0	200.087	0	466.871	0
6.9	4	0	4	1	0.01953	0	0.01953	0.00488	266.783	0	266.783	66.6958
7	2	5	5	0	0.00977	0.02441	0.02441	0	133.392	333.479	333.479	0
7.1	2	5	0	0	0.00977	0.02441	0	0	133.392	333.479	0	0
7.2	1	0	6	0	0.00488	0	0.0293	0	66.6958	0	400.175	0
7.3	2	0	0	0	0.00977	0	0	0	133.392	0	0	0
7.4	2	1	6	0	0.00977	0.00488	0.0293	0	133.392	66.6958	400.175	0
7.5	0	0	0	0	0	0	0	0	0	0	0	0
7.6	2	2	0	0	0.00977	0.00977	0	0	133.392	133.392	0	0
7.7	2	0	4	2	0.00977	0	0.01953	0.00977	133.392	0	266.783	133.392
7.8	5	2	0	5	0.02441	0.00977	0	0.02441	333.479	133.392	0	333.479
7.9	3	1	5	1	0.01465	0.00488	0.02441	0.00488	200.087	66.6958	333.479	66.6958
8	0	0	0	0	0	0	0	0	0	0	0	0
	0	5	0	0.00977	0	0.02441	0	133.392	0	333.479	0	0
	1	2	0	0.01465	0.00488	0.00977	0	200.087	66.6958	133.392	0	0
	0	1	0	0	0	0.00488	0	0	0	66.6958	0	0
	0	3	0	0	0	0.01465	0	0	0	200.087	0	0
	3	6	0	0.00488	0.01465	0.0293	0	66.6958	200.087	400.175	0	0
	0	3	0	0.03418	0	0.01465	0	466.871	0	200.087	0	0



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
8.7	3	0	1	0	0.01465	0	0.00488	0	200.087	0	66.6958	0
8.8	4	0	4	0	0.01953	0	0.01953	0	266.783	0	266.783	0
8.9	4	2	0	1	0.01953	0.00977	0	0.00488	266.783	133.392	0	66.6958
9	0	5	0	0	0	0.02441	0	0	0	333.479	0	0
9.1	0	0	0	0	0	0	0	0	0	0	0	0
9.2	5	2	0	0	0.02441	0.00977	0	0	333.479	133.392	0	0
9.3	3	0	0	0	0.01465	0	0	0	200.087	0	0	0
9.4	1	6	0	0	0.00488	0.0293	0	0	66.6958	400.175	0	0
9.5	0	0	3	0	0	0	0.01465	0	0	0	200.087	0
9.6	3	3	0	0	0.01465	0.01465	0	0	200.087	200.087	0	0
9.7	2	0	3	0	0.00977	0	0.01465	0	133.392	0	200.087	0
9.8	2	0	0	1	0.00977	0	0	0.00488	133.392	0	0	66.6958
9.9	0	0	2	0	0	0	0.00977	0	0	0	133.392	0
10	0	5	2	0	0	0.02441	0.00977	0	0	333.479	133.392	0
Tekanan Rata-rata (N/m ²)									208.53	192.537	224.03	181.032

2. Percobaan 2 pada kecepatan 0,732 m/s

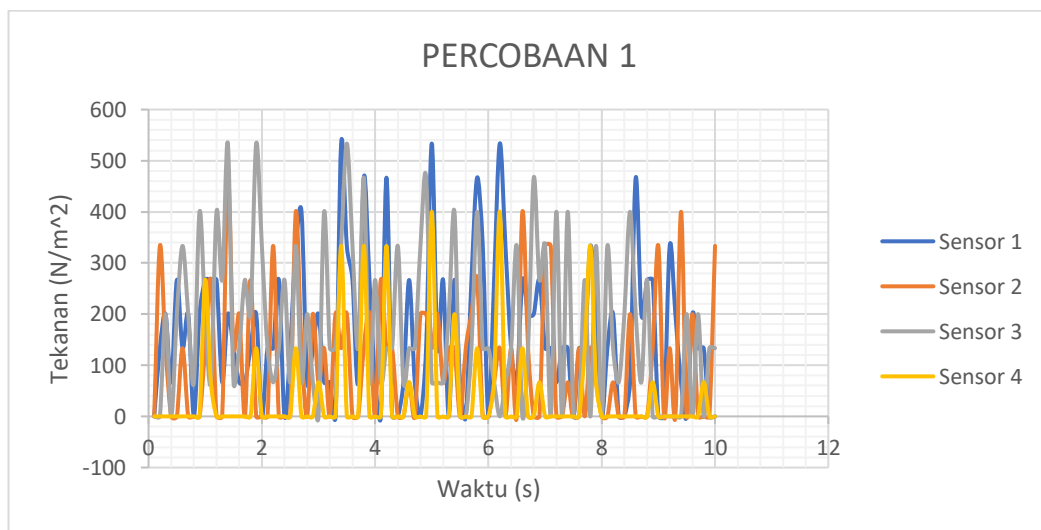
Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	4	4	0	0	0.02	0.02	0	0	266.8	266.8	0	0
0.3	7	0	0	2	0.034	0	0	0.01	466.9	0	0	133.4
0.4	4	6	7	0	0.02	0.029	0.034	0	266.8	400.2	466.9	0
0.5	2	0	2	0	0.01	0	0.01	0	133.4	0	133.4	0
0.6	6	1	3	0	0.029	0.005	0.015	0	400.2	66.7	200.1	0
0.7	8	0	0	0	0.039	0	0	0	533.6	0	0	0
0.8	5	0	3	3	0.024	0	0.015	0.015	333.5	0	200.1	200.1
0.9	2	0	0	2	0.01	0	0	0.01	133.4	0	0	133.4
1	3	5	0	0	0.015	0.024	0	0	200.1	333.5	0	0
1.1	7	5	0	5	0.034	0.024	0	0.024	466.9	333.5	0	333.5
1.2	2	1	4	5	0.01	0.005	0.02	0.024	133.4	66.7	266.8	333.5
1.3	0	2	0	0	0	0.01	0	0	0	133.4	0	0
1.4	0	0	0	2	0	0	0	0.01	0	0	0	133.4
1.5	2	2	6	3	0.01	0.01	0.029	0.015	133.4	133.4	400.2	200.1
1.6	1	0	8	0	0.005	0	0.039	0	66.7	0	533.6	0
1.7	1	4	7	0	0.005	0.02	0.034	0	66.7	266.8	466.9	0
1.8	4	4	0	0	0.02	0.02	0	0	266.8	266.8	0	0
1.9	7	1	4	5	0.034	0.005	0.02	0.024	466.9	66.7	266.8	333.5
2	1	0	0	0	0.005	0	0	0	66.7	0	0	0
2.1	0	2	0	0	0	0.01	0	0	0	133.4	0	0
2.2	1	0	0	0	0.005	0	0	0	66.7	0	0	0
2.3	7	3	4	5	0.034	0.015	0.02	0.024	466.9	200.1	266.8	333.5
2.4	1	0	0	0	0.005	0	0	0	66.7	0	0	0
2.5	0	0	0	0	0	0	0	0	0	0	0	0
		0	5	0	0	0	0.024	0	0	0	333.5	0
		8	1	0	0.039	0.039	0.005	0	533.6	533.6	66.7	0
		8	0	0	0.005	0.039	0	0	66.7	533.6	0	0
		1	0	0	0	0.005	0	0	0	66.7	0	0
		1	6	0	0.02	0.005	0.029	0	266.8	66.7	400.2	0
		9	0	7	0.034	0.044	0	0.034	466.9	600.3	0	466.9



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
3.2	0	0	0	0	0	0	0	0	0	0	0	0
3.3	1	0	0	0	0.005	0	0	0	66.7	0	0	0
3.4	0	0	7	0	0	0	0.034	0	0	0	466.9	0
3.5	7	0	0	4	0.034	0	0	0.02	466.9	0	0	266.8
3.6	0	2	0	0	0	0.01	0	0	0	133.4	0	0
3.7	1	2	0	0	0.005	0.01	0	0	66.7	133.4	0	0
3.8	2	2	2	0	0.01	0.01	0.01	0	133.4	133.4	133.4	0
3.9	3	6	0	0	0.015	0.029	0	0	200.1	400.2	0	0
4	1	1	3	0	0.005	0.005	0.015	0	66.7	66.7	200.1	0
4.1	0	1	5	0	0	0.005	0.024	0	0	66.7	333.5	0
4.2	5	5	0	2	0.024	0.024	0	0.01	333.5	333.5	0	133.4
4.3	7	4	0	2	0.034	0.02	0	0.01	466.9	266.8	0	133.4
4.4	3	4	0	0	0.015	0.02	0	0	200.1	266.8	0	0
4.5	0	0	0	0	0	0	0	0	0	0	0	0
4.6	6	3	0	0	0.029	0.015	0	0	400.2	200.1	0	0
4.7	3	2	0	0	0.015	0.01	0	0	200.1	133.4	0	0
4.8	0	0	0	0	0	0	0	0	0	0	0	0
4.9	5	7	0	7	0.024	0.034	0	0.034	333.5	466.9	0	466.9
5	5	3	0	0	0.024	0.015	0	0	333.5	200.1	0	0
5.1	7	5	3	0	0.034	0.024	0.015	0	466.9	333.5	200.1	0
5.2	0	0	0	2	0	0	0	0.01	0	0	0	133.4
5.3	1	1	3	0	0.005	0.005	0.015	0	66.7	66.7	200.1	0
5.4	2	1	0	0	0.01	0.005	0	0	133.4	66.7	0	0
5.5	7	0	2	7	0.034	0	0.01	0.034	466.9	0	133.4	466.9
5.6	0	0	2	0	0	0	0.01	0	0	0	133.4	0
5.7	0	1	0	0	0	0.005	0	0	0	66.7	0	0
5.8	5	3	2	0	0.024	0.015	0.01	0	333.5	200.1	133.4	0
5.9	6	1	3	7	0.029	0.005	0.015	0.034	400.2	66.7	200.1	466.9
6	0	0	3	0	0	0	0.015	0	0	0	200.1	0
6.1	2	0	0	0	0.01	0	0	0	133.4	0	0	0
6.2	3	1	0	0	0.015	0.005	0	0	200.1	66.7	0	0
6.3	1	0	0	0	0.005	0	0	0	66.7	0	0	0
6.4	5	5	0	0	0.024	0.024	0	0	333.5	333.5	0	0
6.5	0	4	0	0	0	0.02	0	0	0	266.8	0	0
6.6	7	1	2	0	0.034	0.005	0.01	0	466.9	66.7	133.4	0
6.7	1	3	4	0	0.005	0.015	0.02	0	66.7	200.1	266.8	0
6.8	0	0	0	0	0	0	0	0	0	0	0	0
6.9	1	1	0	1	0.005	0.005	0	0.005	66.7	66.7	0	66.7
7	3	3	3	0	0.015	0.015	0.015	0	200.1	200.1	200.1	0
7.1	5	2	0	3	0.024	0.01	0	0.015	333.5	133.4	0	200.1
7.2	4	7	2	0	0.02	0.034	0.01	0	266.8	466.9	133.4	0
7.3	5	0	2	2	0.024	0	0.01	0.01	333.5	0	133.4	133.4
7.4	5	3	0	1	0.024	0.015	0	0.005	333.5	200.1	0	66.7
7.5	2	0	0	0	0.01	0	0	0	133.4	0	0	0
7.6	3	6	0	0	0.015	0.029	0	0	200.1	400.2	0	0
7.7	2	1	3	0	0.01	0.005	0.015	0	133.4	66.7	200.1	0
7.8	5	5	2	0	0.024	0.024	0.01	0	333.5	333.5	133.4	0
7.9	4	0	0	3	0.02	0	0	0.015	266.8	0	0	200.1
		2	0	0	0	0.01	0	0	0	133.4	0	0
		0	0	0	0	0	0	0	0	0	0	0
		0	3	0	0.015	0	0.015	0	200.1	0	200.1	0
		0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0
		0	3	0	0.01	0	0.015	0	133.4	0	200.1	0

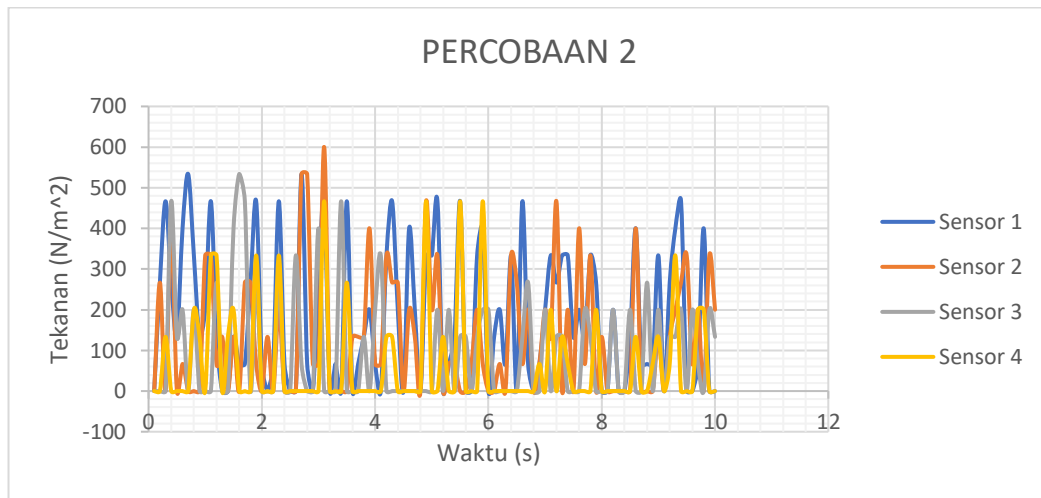


Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
8.6	6	6	0	2	0.029	0.029	0	0.01	400.2	400.2	0	133.4
8.7	1	0	0	0	0.005	0	0	0	66.7	0	0	0
8.8	1	0	4	0	0.005	0	0.02	0	66.7	0	266.8	0
8.9	1	0	0	1	0.005	0	0	0.005	66.7	0	0	66.7
9	5	2	3	2	0.024	0.01	0.015	0.01	333.5	133.4	200.1	133.4
9.1	0	0	0	0	0	0	0	0	0	0	0	0
9.2	4	2	2	1	0.02	0.01	0.01	0.005	266.8	133.4	133.4	66.7
9.3	6	3	2	5	0.029	0.015	0.01	0.024	400.2	200.1	133.4	333.5
9.4	7	4	3	0	0.034	0.02	0.015	0	466.9	266.8	200.1	0
9.5	0	5	0	0	0	0.024	0	0	0	333.5	0	0
9.6	0	1	3	0	0	0.005	0.015	0	0	66.7	200.1	0
9.7	1	3	1	3	0.005	0.015	0.005	0.015	66.7	200.1	66.7	200.1
9.8	6	0	0	3	0.029	0	0	0.015	400.2	0	0	200.1
9.9	0	5	3	0	0	0.024	0.015	0	0	333.5	200.1	0
10	0	3	2	0	0	0.015	0.01	0	0	200.1	133.4	0
Tekanan Rata-rata (N/m ²)									252.888	217.581	225.495	223.086



Grafik Percobaan 1 kecepatan 0,732 m/s





Grafik Percobaan 2 kecepatan 0,732 m/s

Nilai rata-rata tekanan model pada percobaan 1 dan percobaan 2 pada kecepatan 0,732 m/s dapat dilihat pada tabel berikut

	0.732 m/s			
	Sensor1	Sensor 2	Sensor 3	Sensor 4
perc1 (N/m ²)	208.53	192.537	224.0296	181.0315
perc 2 (N/m ²)	252.8884	217.5815	225.4954	223.0861
Tekanan (N/m ²)	230.7092	205.0593	224.7625	202.0588



Tekanan pada kecepatan 0,976 m/s

1. Percobaan 1 pada kecepatan 0,976 m/s

Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	0	0	11	0	0	0	0.0537	0	0	0	733.65	0
0.3	0	0	0	0	0	0	0	0	0	0	0	0
0.4	0	3	0	1	0	0.0146	0	0.0049	0	200.09	0	66.696
0.5	0	0	0	0	0	0	0	0	0	0	0	0
0.6	5	0	9	1	0.0244	0	0.0439	0.0049	333.48	0	600.26	66.696
0.7	0	8	0	0	0	0.0391	0	0	0	533.57	0	0
0.8	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
0.9	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	8	2	0	0	0.0391	0.0098	0	0	533.57	133.39
1.1	8	2	0	0	0.0391	0.0098	0	0	533.57	133.39	0	0
1.2	0	0	0	5	0	0	0	0.0244	0	0	0	333.48
1.3	0	0	0	2	0	0	0	0.0098	0	0	0	133.39
1.4	4	0	7	1	0.0195	0	0.0342	0.0049	266.78	0	466.87	66.696
1.5	8	4	1	0	0.0391	0.0195	0.0049	0	533.57	266.78	66.696	0
1.6	9	4	1	1	0.0439	0.0195	0.0049	0.0049	600.26	266.78	66.696	66.696
1.7	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
1.8	0	4	9	0	0	0.0195	0.0439	0	0	266.78	600.26	0
1.9	0	4	0	0	0	0.0195	0	0	0	266.78	0	0
2	0	0	0	7	0	0	0	0.0342	0	0	0	466.87
2.1	12	10	0	3	0.0586	0.0488	0	0.0146	800.35	666.96	0	200.09
2.2	0	0	9	0	0	0	0.0439	0	0	0	600.26	0
2.3	0	3	0	0	0	0.0146	0	0	0	200.09	0	0
2.4	0	0	0	7	0	0	0	0.0342	0	0	0	466.87
2.5	5	0	0	0	0.0244	0	0	0	333.48	0	0	0
2.6	0	0	8	0	0	0	0.0391	0	0	0	533.57	0
2.7	0	0	0	0	0	0	0	0	0	0	0	0
2.8	0	0	0	7	0	0	0	0.0342	0	0	0	466.87
2.9	6	0	1	0	0.0293	0	0.0049	0	400.17	0	66.696	0
3	7	0	5	0	0.0342	0	0.0244	0	466.87	0	333.48	0
3.1	0	1	0	5	0	0.0049	0	0.0244	0	66.696	0	333.48
3.2	0	0	0	8	0	0	0	0.0391	0	0	0	533.57
3.3	0	5	0	2	0	0.0244	0	0.0098	0	333.48	0	133.39
3.4	1	1	4	3	0.0049	0.0049	0.0195	0.0146	66.696	66.696	266.78	200.09
3.5	0	0	0	0	0	0	0	0	0	0	0	0
3.6	7	1	0	6	0.0342	0.0049	0	0.0293	466.87	66.696	0	400.17
3.7	0	7	0	0	0	0.0342	0	0	0	466.87	0	0
3.8	3	0	3	0	0.0146	0	0.0146	0	200.09	0	200.09	0
3.9	0	0	0	0	0	0	0	0	0	0	0	0
4	1	3	0	1	0.0049	0.0146	0	0.0049	66.696	200.09	0	66.696
4.1	16	0	3	0	0.0781	0	0.0146	0	1067.1	0	200.09	0
4.2	9	1	3	0	0.0439	0.0049	0.0146	0	600.26	66.696	200.09	0
4.3	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
		0	0	6	0	0	0	0.0293	0	0	0	400.17
		0	1	0	0	0	0.0049	0	0	0	66.696	0
		0	2	0	0.0439	0	0.0098	0	600.26	0	133.39	0
		0	0	0	0	0	0	0	0	0	0	0
		3	0	0	0.0586	0.0146	0	0	800.35	200.09	0	0
		0	5	2	0	0	0.0244	0.0098	0	0	333.48	133.39



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
5	9	0	3	0	0.0439	0	0.0146	0	600.26	0	200.09	0
5.1	0	0	0	0	0	0	0	0	0	0	0	0
5.2	3	9	0	6	0.0146	0.0439	0	0.0293	200.09	600.26	0	400.17
5.3	2	0	7	0	0.0098	0	0.0342	0	133.39	0	466.87	0
5.4	5	0	2	0	0.0244	0	0.0098	0	333.48	0	133.39	0
5.5	2	0	0	0	0.0098	0	0	0	133.39	0	0	0
5.6	3	3	0	0	0.0146	0.0146	0	0	200.09	200.09	0	0
5.7	0	1	6	0	0	0.0049	0.0293	0	0	66.696	400.17	0
5.8	6	0	1	0	0.0293	0	0.0049	0	400.17	0	66.696	0
5.9	10	0	0	0	0.0488	0	0	0	666.96	0	0	0
6	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
6.1	0	1	7	0	0	0.0049	0.0342	0	0	66.696	466.87	0
6.2	4	0	1	4	0.0195	0	0.0049	0.0195	266.78	0	66.696	266.78
6.3	0	3	0	0	0	0.0146	0	0	0	200.09	0	0
6.4	0	0	0	0	0	0	0	0	0	0	0	0
6.5	3	4	6	0	0.0146	0.0195	0.0293	0	200.09	266.78	400.17	0
6.6	0	4	3	0	0	0.0195	0.0146	0	0	266.78	200.09	0
6.7	2	0	0	0	0.0098	0	0	0	133.39	0	0	0
6.8	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
6.9	1	0	6	2	0.0049	0	0.0293	0.0098	66.696	0	400.17	133.39
7	0	7	1	0	0	0.0342	0.0049	0	0	466.87	66.696	0
7.1	0	0	0	0	0	0	0	0	0	0	0	0
7.2	4	0	0	0	0.0195	0	0	0	266.78	0	0	0
7.3	0	2	9	5	0	0.0098	0.0439	0.0244	0	133.39	600.26	333.48
7.4	0	10	0	0	0	0.0488	0	0	0	666.96	0	0
7.5	0	0	0	2	0	0	0	0.0098	0	0	0	133.39
7.6	6	2	1	0	0.0293	0.0098	0.0049	0	400.17	133.39	66.696	0
7.7	0	0	5	0	0	0	0.0244	0	0	0	333.48	0
7.8	0	0	0	2	0	0	0	0.0098	0	0	0	133.39
7.9	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
8	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
8.1	0	5	6	0	0	0.0244	0.0293	0	0	333.48	400.17	0
8.2	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
8.3	3	0	0	0	0.0146	0	0	0	200.09	0	0	0
8.4	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
8.5	2	8	7	1	0.0098	0.0391	0.0342	0.0049	133.39	533.57	466.87	66.696
8.6	0	0	0	0	0	0	0	0	0	0	0	0
8.7	10	0	0	0	0.0488	0	0	0	666.96	0	0	0
8.8	0	3	0	0	0	0.0146	0	0	0	200.09	0	0
8.9	0	0	6	0	0	0	0.0293	0	0	0	400.17	0
9	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
9.1	0	6	0	9	0	0.0293	0	0.0439	0	400.17	0	600.26
9.2	0	1	0	1	0	0.0049	0	0.0049	0	66.696	0	66.696
9.3	0	0	4	0	0	0	0.0195	0	0	0	266.78	0
9.4	1	0	0	2	0.0049	0	0	0.0098	66.696	0	0	133.39
9.5	0	0	0	0	0	0	0	0	0	0	0	0
9.6	1	1	3	0	0.0049	0.0049	0.0146	0	66.696	66.696	200.09	0
9.7	4	0	4	5	0.0195	0	0.0195	0.0244	266.78	0	266.78	333.48
		0	0	0	0	0	0	0	0	0	0	0
		0	1	7	0	0	0.0049	0.0342	0	0	66.696	466.87
		0	4	5	0.0049	0	0.0195	0.0244	66.696	0	266.78	333.48
Tekanan Rata-rata (N/m ²)									324.173	257.255	305.133	237.141



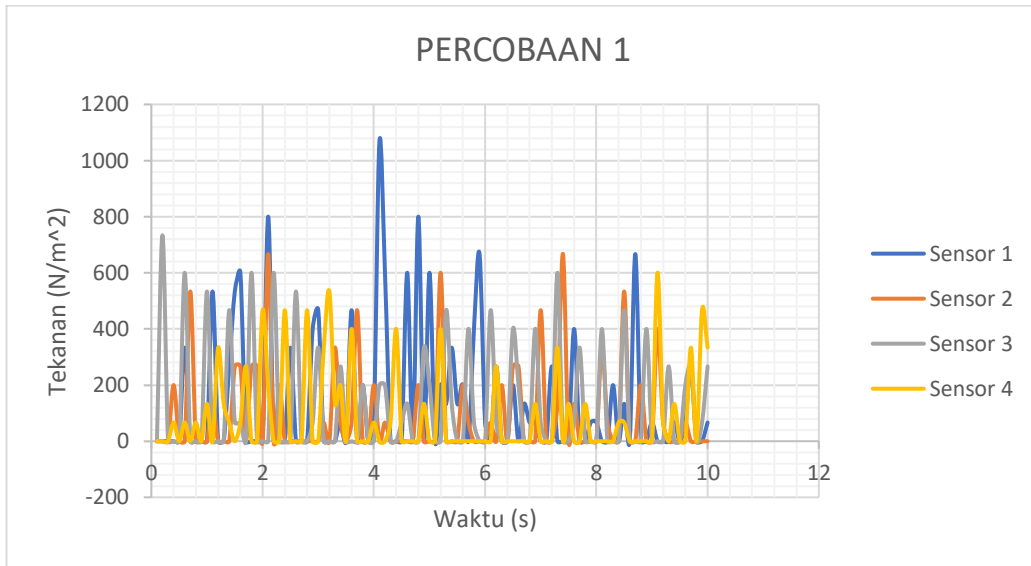
2. Percobaan 2 pada kecepatan 0,976 m/s

Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
0.3	0	0	6	15	0	0	0.0293	0.0732	0	0	400.17	1000.4
0.4	13	3	0	0	0.0635	0.0146	0	0	867.05	200.09	0	0
0.5	0	0	0	0	0	0	0	0	0	0	0	0
0.6	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
0.7	0	8	7	0	0	0.0391	0.0342	0	0	533.57	466.87	0
0.8	5	0	0	0	0.0244	0	0	0	333.48	0	0	0
0.9	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
1.1	0	2	6	5	0	0.0098	0.0293	0.0244	0	133.39	400.17	333.48
1.2	0	0	0	0	0	0	0	0	0	0	0	0
1.3	0	0	0	0	0	0	0	0	0	0	0	0
1.4	4	0	0	1	0.0195	0	0	0.0049	266.78	0	0	66.696
1.5	8	4	5	0	0.0391	0.0195	0.0244	0	533.57	266.78	333.48	0
1.6	9	4	0	0	0.0439	0.0195	0	0	600.26	266.78	0	0
1.7	0	0	0	0	0	0	0	0	0	0	0	0
1.8	0	4	0	0	0	0.0195	0	0	0	266.78	0	0
1.9	0	4	4	0	0	0.0195	0.0195	0	0	266.78	266.78	0
2	0	0	0	0	0	0	0	0	0	0	0	0
2.1	0	10	0	0	0	0.0488	0	0	0	666.96	0	0
2.2	0	0	0	0	0	0	0	0	0	0	0	0
2.3	0	3	4	0	0	0.0146	0.0195	0	0	200.09	266.78	0
2.4	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
2.5	5	0	0	0	0.0244	0	0	0	333.48	0	0	0
2.6	0	0	0	0	0	0	0	0	0	0	0	0
2.7	0	0	3	4	0	0	0.0146	0.0195	0	0	200.09	266.78
2.8	0	0	0	0	0	0	0	0	0	0	0	0
2.9	6	0	0	1	0.0293	0	0	0.0049	400.17	0	0	66.696
3	7	0	5	3	0.0342	0	0.0244	0.0146	466.87	0	333.48	200.09
3.1	0	1	1	6	0	0.0049	0.0049	0.0293	0	66.696	66.696	400.17
3.2	0	0	0	0	0	0	0	0	0	0	0	0
3.3	0	5	0	0	0	0.0244	0	0	0	333.48	0	0
3.4	1	1	6	0	0.0049	0.0049	0.0293	0	66.696	66.696	400.17	0
3.5	0	0	0	0	0	0	0	0	0	0	0	0
3.6	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
3.7	0	7	1	0	0	0.0342	0.0049	0	0	466.87	66.696	0
3.8	0	0	9	0	0	0	0.0439	0	0	0	600.26	0
3.9	0	0	0	6	0	0	0	0.0293	0	0	0	400.17
4	1	3	0	0	0.0049	0.0146	0	0	66.696	200.09	0	0
4.1	0	0	0	0	0	0	0	0	0	0	0	0
4.2	0	1	7	0	0	0.0049	0.0342	0	0	66.696	466.87	0
4.3	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
4.4	10	0	0	0	0.0488	0	0	0	666.96	0	0	0
4.5	0	0	0	0	0	0	0	0	0	0	0	0
4.6	2	0	8	0	0.0098	0	0.0391	0	133.39	0	533.57	0
		0	0	0	0	0	0	0	0	0	0	0
		3	0	0	0.0195	0.0146	0	0	266.78	200.09	0	0
		0	1	0	0	0	0.0049	0	0	0	66.696	0
		0	9	0	0	0	0.0439	0	0	0	600.26	0
		0	1	0	0	0	0.0049	0	0	0	66.696	0
		9	0	0	0.0586	0.0439	0	0	800.35	600.26	0	0

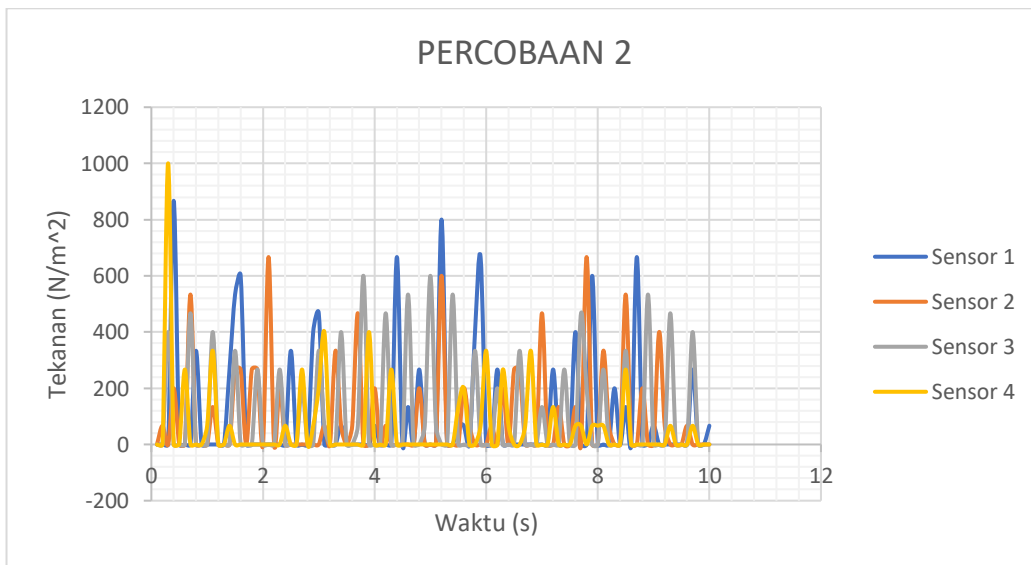


Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
5.3	0	0	0	0	0	0	0	0	0	0	0	0
5.4	0	0	8	0	0	0	0.0391	0	0	0	533.57	0
5.5	1	0	0	2	0.0049	0	0	0.0098	66.696	0	0	133.39
5.6	1	3	0	3	0.0049	0.0146	0	0.0146	66.696	200.09	0	200.09
5.7	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
5.8	6	0	5	0	0.0293	0	0.0244	0	400.17	0	333.48	0
5.9	10	0	0	1	0.0488	0	0	0.0049	666.96	0	0	66.696
6	0	0	0	5	0	0	0	0.0244	0	0	0	333.48
6.1	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
6.2	4	0	3	0	0.0195	0	0.0146	0	266.78	0	200.09	0
6.3	0	3	0	4	0	0.0146	0	0.0195	0	200.09	0	266.78
6.4	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
6.5	0	4	0	0	0	0.0195	0	0	0	266.78	0	0
6.6	0	4	5	0	0	0.0195	0.0244	0	0	266.78	333.48	0
6.7	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
6.8	0	0	0	5	0	0	0	0.0244	0	0	0	333.48
6.9	0	0	0	0	0	0	0	0	0	0	0	0
7	0	7	2	0	0	0.0342	0.0098	0	0	466.87	133.39	0
7.1	0	0	0	0	0	0	0	0	0	0	0	0
7.2	4	0	0	2	0.0195	0	0	0.0098	266.78	0	0	133.39
7.3	0	2	0	0	0	0.0098	0	0	0	133.39	0	0
7.4	0	0	4	0	0	0	0.0195	0	0	0	266.78	0
7.5	0	0	0	0	0	0	0	0	0	0	0	0
7.6	6	2	0	1	0.0293	0.0098	0	0.0049	400.17	133.39	0	66.696
7.7	0	0	7	1	0	0	0.0342	0.0049	0	0	466.87	66.696
7.8	0	10	3	0	0	0.0488	0.0146	0	0	666.96	200.09	0
7.9	9	0	0	1	0.0439	0	0	0.0049	600.26	0	0	66.696
8	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
8.1	0	5	4	1	0	0.0244	0.0195	0.0049	0	333.48	266.78	66.696
8.2	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
8.3	3	0	0	0	0.0146	0	0	0	200.09	0	0	0
8.4	0	0	0	0	0	0	0	0	0	0	0	0
8.5	2	8	5	4	0.0098	0.0391	0.0244	0.0195	133.39	533.57	333.48	266.78
8.6	0	0	0	0	0	0	0	0	0	0	0	0
8.7	10	0	0	0	0.0488	0	0	0	666.96	0	0	0
8.8	0	3	0	0	0	0.0146	0	0	0	200.09	0	0
8.9	0	0	8	0	0	0	0.0391	0	0	0	533.57	0
9	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
9.1	0	6	0	0	0	0.0293	0	0	0	400.17	0	0
9.2	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
9.3	0	0	7	1	0	0	0.0342	0.0049	0	0	466.87	66.696
9.4	0	0	0	0	0	0	0	0	0	0	0	0
9.5	0	0	0	0	0	0	0	0	0	0	0	0
9.6	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
9.7	4	0	6	1	0.0195	0	0.0293	0.0049	266.78	0	400.17	66.696
9.8	0	0	0	0	0	0	0	0	0	0	0	0
9.9	0	0	0	0	0	0	0	0	0	0	0	0
10	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
Tekanan Rata-rata (N/m ²)									354.917	251.962	333.479	197.788





Grafik Percobaan 2 kecepatan 0,976 m/s



Grafik Percobaan 2 kecepatan 0,976 m/s

Nilai rata-rata tekanan model pada percobaan 1 dan percobaan 2 pada kecepatan 0,976 m/s dapat dilihat pada tabel berikut

	0.976 m/s			
	Sensor1	Sensor 2	Sensor 3	Sensor 4
perc1 (N/m ²)	324.173	257.255	305.133	237.141
perc 2 (N/m ²)	354.917	251.962	333.479	197.788
Tekanan (N/m ²)	339.545	254.609	319.306	217.464



Tekanan pada kecepatan 1,22 m/s

1. Percobaan 1 pada kecepatan 1,22 m/s

Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	0	0	9	0	0	0	0.0439	0	0	0	600.26	0
0.3	0	0	0	0	0	0	0	0	0	0	0	0
0.4	12	0	0	2	0.0586	0	0	0.0098	800.35	0	0	133.39
0.5	0	0	0	0	0	0	0	0	0	0	0	0
0.6	0	0	6	0	0	0	0.0293	0	0	0	400.17	0
0.7	0	3	0	1	0	0.0146	0	0.0049	0	200.09	0	66.696
0.8	0	0	0	0	0	0	0	0	0	0	0	0
0.9	0	0	0	0	0	0	0	0	0	0	0	0
1	3	0	9	0	0.0146	0	0.0439	0	200.09	0	600.26	0
1.1	0	5	0	0	0	0.0244	0	0	0	333.48	0	0
1.2	0	0	0	2	0	0	0	0.0098	0	0	0	133.39
1.3	0	0	0	0	0	0	0	0	0	0	0	0
1.4	5	0	7	0	0.0244	0	0.0342	0	333.48	0	466.87	0
1.5	0	0	0	8	0	0	0	0.0391	0	0	0	533.57
1.6	0	0	0	0	0	0	0	0	0	0	0	0
1.7	0	0	0	9	0	0	0	0.0439	0	0	0	600.26
1.8	0	0	10	1	0	0	0.0488	0.0049	0	0	666.96	66.696
1.9	0	6	0	1	0	0.0293	0	0.0049	0	400.17	0	66.696
2	0	0	0	0	0	0	0	0	0	0	0	0
2.1	0	7	0	0	0	0.0342	0	0	0	466.87	0	0
2.2	6	1	11	0	0.0293	0.0049	0.0537	0	400.17	66.696	733.65	0
2.3	0	0	0	7	0	0	0	0.0342	0	0	0	466.87
2.4	7	8	0	0	0.0342	0.0391	0	0	466.87	533.57	0	0
2.5	1	1	0	0	0.0049	0.0049	0	0	66.696	66.696	0	0
2.6	0	0	8	0	0	0	0.0391	0	0	0	533.57	0
2.7	14	0	0	3	0.0684	0	0	0.0146	933.74	0	0	200.09
2.8	10	0	0	5	0.0488	0	0	0.0244	666.96	0	0	333.48
2.9	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	6	1	0	0	0.0293	0.0049	0	0	400.17	66.696
3.1	0	0	0	5	0	0	0	0.0244	0	0	0	333.48
3.2	0	0	0	0	0	0	0	0	0	0	0	0
3.3	0	8	0	0	0	0.0391	0	0	0	533.57	0	0
3.4	0	4	5	0	0	0.0195	0.0244	0	0	266.78	333.48	0
3.5	0	5	5	0	0	0.0244	0.0244	0	0	333.48	333.48	0
3.6	8	0	0	4	0.0391	0	0	0.0195	533.57	0	0	266.78
3.7	4	0	0	1	0.0195	0	0	0.0049	266.78	0	0	66.696
3.8	5	0	6	0	0.0244	0	0.0293	0	333.48	0	400.17	0
3.9	0	3	3	9	0	0.0146	0.0146	0.0439	0	200.09	200.09	600.26
4	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
4.1	0	5	0	0	0	0.0244	0	0	0	333.48	0	0
4.2	12	0	4	4	0.0586	0	0.0195	0.0195	800.35	0	266.78	266.78
		0	4	4	0	0	0.0195	0.0195	0	0	266.78	266.78
		2	0	0	0.0244	0.0098	0	0	333.48	133.39	0	0
		0	0	0	0	0	0	0	0	0	0	0
		1	0	4	0	0.0049	0	0.0195	0	66.696	0	266.78
		4	8	0	0.0098	0.0195	0.0391	0	133.39	266.78	533.57	0
		0	0	0	0	0	0	0	0	0	0	0



Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
4.9	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
5	4	1	3	0	0.0195	0.0049	0.0146	0	266.78	66.696	200.09	0
5.1	0	0	8	4	0	0	0.0391	0.0195	0	0	533.57	266.78
5.2	0	0	0	0	0	0	0	0	0	0	0	0
5.3	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
5.4	0	0	0	0	0	0	0	0	0	0	0	0
5.5	0	0	6	5	0	0	0.0293	0.0244	0	0	400.17	333.48
5.6	0	3	0	3	0	0.0146	0	0.0146	0	200.09	0	200.09
5.7	0	5	0	0	0	0.0244	0	0	0	333.48	0	0
5.8	0	0	0	0	0	0	0	0	0	0	0	0
5.9	3	0	6	4	0.0146	0	0.0293	0.0195	200.09	0	400.17	266.78
6	5	0	0	0	0.0244	0	0	0	333.48	0	0	0
6.1	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
6.2	0	5	0	4	0	0.0244	0	0.0195	0	333.48	0	266.78
6.3	0	1	8	0	0	0.0049	0.0391	0	0	66.696	533.57	0
6.4	0	0	0	0	0	0	0	0	0	0	0	0
6.5	5	0	0	0	0.0244	0	0	0	333.48	0	0	0
6.6	15	0	0	1	0.0732	0	0	0.0049	1000.4	0	0	66.696
6.7	0	0	7	0	0	0	0.0342	0	0	0	466.87	0
6.8	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
6.9	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
7.1	0	9	8	0	0	0.0439	0.0391	0	0	600.26	533.57	0
7.2	0	0	3	0	0	0	0.0146	0	0	0	200.09	0
7.3	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
7.4	9	12	0	0	0.0439	0.0586	0	0	600.26	800.35	0	0
7.5	0	0	2	0	0	0	0.0098	0	0	0	133.39	0
7.6	0	0	6	0	0	0	0.0293	0	0	0	400.17	0
7.7	12	0	0	2	0.0586	0	0	0.0098	800.35	0	0	133.39
7.8	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
7.9	0	7	0	0	0	0.0342	0	0	0	466.87	0	0
8	0	0	6	0	0	0	0.0293	0	0	0	400.17	0
8.1	0	0	0	0	0	0	0	0	0	0	0	0
8.2	7	0	0	0	0.0342	0	0	0	466.87	0	0	0
8.3	6	0	0	0	0.0293	0	0	0	400.17	0	0	0
8.4	0	0	8	0	0	0	0.0391	0	0	0	533.57	0
8.5	0	0	0	0	0	0	0	0	0	0	0	0
8.6	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
8.7	4	0	0	0	0.0195	0	0	0	266.78	0	0	0
8.8	0	0	8	0	0	0	0.0391	0	0	0	533.57	0
8.9	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	3	0	0	0	0.0146	0	0	0	200.09
9.1	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
9.2	0	0	8	0	0	0	0.0391	0	0	0	533.57	0
9.3	0	0	0	0	0	0	0	0	0	0	0	0
9.4	0	10	0	0	0	0.0488	0	0	0	666.96	0	0
9.5	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
9.6	0	0	9	3	0	0	0.0439	0.0146	0	0	600.26	200.09
		0	3	5	0	0	0.0146	0.0244	0	0	200.09	333.48
		4	4	4	0	0.0195	0.0195	0.0195	0	266.78	266.78	266.78
		0	1	0	0	0	0.0049	0	0	0	66.696	0
		0	0	0	0	0	0	0	0	0	0	0
Tekanan Rata-rata (N/m ²)									412.526	310.392	414.323	242.011



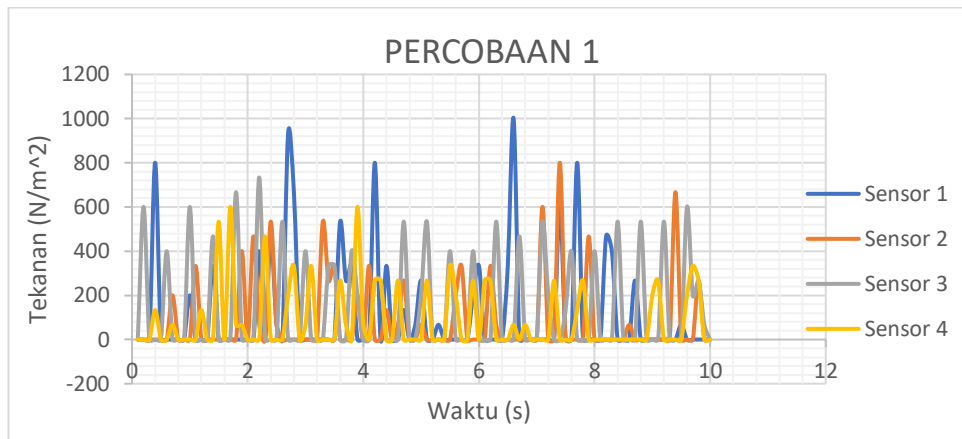
2. Percobaan 2 pada kecepatan 1,22 m/s

Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
0.1	0	0	0	0	0	0	0	0	0	0	0	0
0.2	14	0	0	0	0.0684	0	0	0	933.74	0	0	0
0.3	10	0	9	0	0.0488	0	0.0439	0	666.96	0	600.26	0
0.4	0	0	0	7	0	0	0	0.0342	0	0	0	466.87
0.5	0	0	0	0	0	0	0	0	0	0	0	0
0.6	0	0	0	0	0	0	0	0	0	0	0	0
0.7	0	0	10	1	0	0	0.0488	0.0049	0	0	666.96	66.696
0.8	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
0.9	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
1.1	8	0	6	5	0.0391	0	0.0293	0.0244	533.57	0	400.17	333.48
1.2	4	0	0	0	0.0195	0	0	0	266.78	0	0	0
1.3	5	0	0	3	0.0244	0	0	0.0146	333.48	0	0	200.09
1.4	0	0	0	0	0	0	0	0	0	0	0	0
1.5	0	2	4	8	0	0.0098	0.0195	0.0391	0	133.39	266.78	533.57
1.6	0	0	0	0	0	0	0	0	0	0	0	0
1.7	1	0	8	0	0.0049	0	0.0391	0	66.696	0	533.57	0
1.8	2	8	0	0	0.0098	0.0391	0	0	133.39	533.57	0	0
1.9	5	0	5	5	0.0244	0	0.0244	0.0244	333.48	0	333.48	333.48
2	0	0	0	7	0	0	0	0.0342	0	0	0	466.87
2.1	0	0	0	8	0	0	0	0.0391	0	0	0	533.57
2.2	2	0	0	0	0.0098	0	0	0	133.39	0	0	0
2.3	0	1	2	0	0	0.0049	0.0098	0	0	66.696	133.39	0
2.4	1	1	0	0	0.0049	0.0049	0	0	66.696	66.696	0	0
2.5	4	8	1	0	0.0195	0.0391	0.0049	0	266.78	533.57	66.696	0
2.6	0	0	8	2	0	0	0.0391	0.0098	0	0	533.57	133.39
2.7	0	0	1	0	0	0	0.0049	0	0	0	66.696	0
2.8	1	1	0	0	0.0049	0.0049	0	0	66.696	66.696	0	0
2.9	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
3	0	0	6	0	0	0	0.0293	0	0	0	400.17	0
3.1	0	0	1	0	0	0	0.0049	0	0	0	66.696	0
3.2	0	0	0	0	0	0	0	0	0	0	0	0
3.3	0	0	1	0	0	0	0.0049	0	0	0	66.696	0
3.4	3	5	6	2	0.0146	0.0244	0.0293	0.0098	200.09	333.48	400.17	133.39
3.5	5	0	0	0	0.0244	0	0	0	333.48	0	0	0
3.6	0	0	0	0	0	0	0	0	0	0	0	0
3.7	0	0	0	8	0	0	0	0.0391	0	0	0	533.57
3.8	0	0	8	0	0	0	0.0391	0	0	0	533.57	0
3.9	0	0	0	6	0	0	0	0.0293	0	0	0	400.17
4	5	4	1	0	0.0244	0.0195	0.0049	0	333.48	266.78	66.696	0
4.1	15	0	0	0	0.0732	0	0	0	1000.4	0	0	0
4.2	0	0	7	0	0	0	0.0342	0	0	0	466.87	0
4.3	0	0	0	0	0	0	0	0	0	0	0	0
4.4	0	0	0	0	0	0	0	0	0	0	0	0
4.5	0	8	0	7	0	0.0391	0	0.0342	0	533.57	0	466.87
4.6	0	0	7	0	0	0	0.0342	0	0	0	466.87	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	3	0.0439	0	0	0.0146	600.26	0	0	200.09	0
	0	6	5	0	0	0.0293	0.0244	0	0	400.17	333.48	0
	4	0	0	0	0.0195	0	0	0	266.78	0	0	0
	0	0	1	0.0586	0	0	0.0049	800.35	0	0	66.696	0

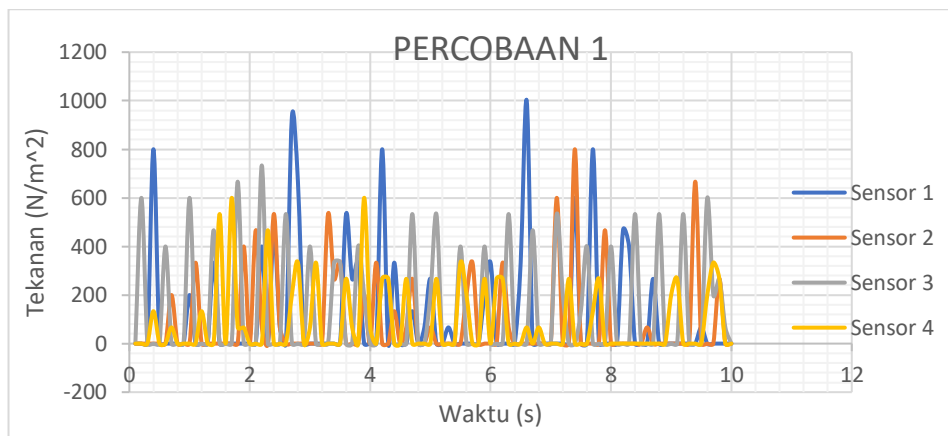


Waktu	Data Digital				Tegangan (V)				Tekanan (N/m ²)			
	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 1	Sensor 2	Sensor 3	Sensor 4
5.3	0	0	0	5	0	0	0	0.0244	0	0	0	333.48
5.4	0	8	4	0	0	0.0391	0.0195	0	0	533.57	266.78	0
5.5	0	0	0	0	0	0	0	0	0	0	0	0
5.6	0	0	0	0	0	0	0	0	0	0	0	0
5.7	7	0	0	0	0.0342	0	0	0	466.87	0	0	0
5.8	0	7	5	4	0	0.0342	0.0244	0.0195	0	466.87	333.48	266.78
5.9	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
6	0	0	0	0	0	0	0	0	0	0	0	0
6.1	0	0	0	9	0	0	0	0.0439	0	0	0	600.26
6.2	0	0	6	1	0	0	0.0293	0.0049	0	0	400.17	66.696
6.3	0	0	0	0	0	0	0	0	0	0	0	0
6.4	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
6.5	7	0	5	4	0.0342	0	0.0244	0.0195	466.87	0	333.48	266.78
6.6	0	0	4	0	0	0	0.0195	0	0	0	266.78	0
6.7	0	0	0	0	0	0	0	0	0	0	0	0
6.8	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
6.9	0	0	5	0	0	0	0.0244	0	0	0	333.48	0
7	0	2	4	0	0	0.0098	0.0195	0	0	133.39	266.78	0
7.1	0	10	0	0	0	0.0488	0	0	0	666.96	0	0
7.2	10	0	0	0	0.0488	0	0	0	666.96	0	0	0
7.3	0	4	6	4	0	0.0195	0.0293	0.0195	0	266.78	400.17	266.78
7.4	0	13	0	0	0	0.0635	0	0	0	867.05	0	0
7.5	0	0	0	0	0	0	0	0	0	0	0	0
7.6	4	0	0	0	0.0195	0	0	0	266.78	0	0	0
7.7	0	0	8	5	0	0	0.0391	0.0244	0	0	533.57	333.48
7.8	0	0	0	3	0	0	0	0.0146	0	0	0	200.09
7.9	11	0	0	0	0.0537	0	0	0	733.65	0	0	0
8	0	5	0	0	0	0.0244	0	0	0	333.48	0	0
8.1	0	0	7	4	0	0	0.0342	0.0195	0	0	466.87	266.78
8.2	0	0	4	0	0	0	0.0195	0	0	0	266.78	0
8.3	4	3	0	4	0.0195	0.0146	0	0.0195	266.78	200.09	0	266.78
8.4	0	4	0	4	0	0.0195	0	0.0195	0	266.78	0	266.78
8.5	0	0	8	0	0	0	0.0391	0	0	0	533.57	0
8.6	0	1	0	0	0	0.0049	0	0	0	66.696	0	0
8.7	0	0	0	0	0	0	0	0	0	0	0	0
8.8	0	3	0	1	0	0.0146	0	0.0049	0	200.09	0	66.696
8.9	0	0	5	0	0	0	0.0244	0	0	0	333.48	0
9	0	0	0	1	0	0	0	0.0049	0	0	0	66.696
9.1	4	0	0	0	0.0195	0	0	0	266.78	0	0	0
9.2	0	0	0	0	0	0	0	0	0	0	0	0
9.3	4	6	5	0	0.0195	0.0293	0.0244	0	266.78	400.17	333.48	0
9.4	1	0	0	0	0.0049	0	0	0	66.696	0	0	0
9.5	0	0	0	4	0	0	0	0.0195	0	0	0	266.78
9.6	0	8	0	0	0	0.0391	0	0	0	533.57	0	0
9.7	3	7	6	0	0.0146	0.0342	0.0293	0	200.09	466.87	400.17	0
9.8	0	0	0	0	0	0	0	0	0	0	0	0
9.9	0	0	0	2	0	0	0	0.0098	0	0	0	133.39
10	3	0	0	4	0.0146	0	0	0.0195	200.09	0	0	266.78
Tekanan Rata-rata (N/m ²)									377.176	341.816	351.134	266.783





Grafik Percobaan 1 kecepatan 1,22 m/s



Grafik Percobaan 2 kecepatan 1,22 m/s

Nilai rata-rata tekanan model pada percobaan 1 dan percobaan 2 pada kecepatan 1,22 m/s dapat dilihat pada tabel berikut

	1,22 m/s			
	Sensor1	Sensor 2	Sensor 3	Sensor 4
perc1 (N/m ²)	412.526	310.392	414.323	242.011
perc 2 (N/m ²)	377.176	341.816	351.134	266.783
Tekanan (N/m ²)	394.851	326.104	382.728	254.397

