Measurements

May 6, 2022

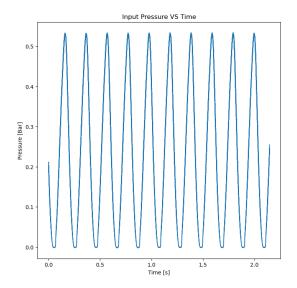
1 PARAMETERS

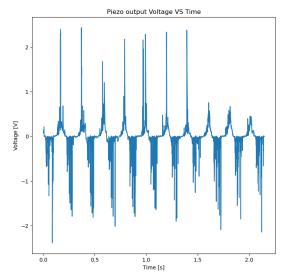
Sample name: AB-211206-085-ZNO

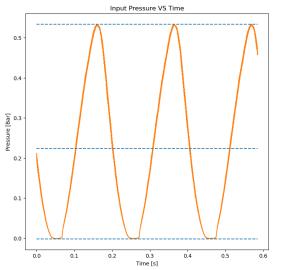
	Parameter	Value	Unit
0	Sample name	AB-211206-085-ZNO	
1	Measure duration	2.147483648	[s]
2	Rload	1000000.0	[Ohms]
3	Nb Periods	3.0	[1]
4	R Circuit	1.0	[Ohms]
5	Max Frequency	164.0	[Hz]

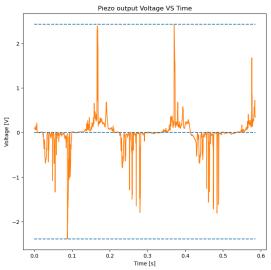
2 PRESSURE AND VOLTAGE MEASUREMENTS

The input frequency is: 5.12 Hz



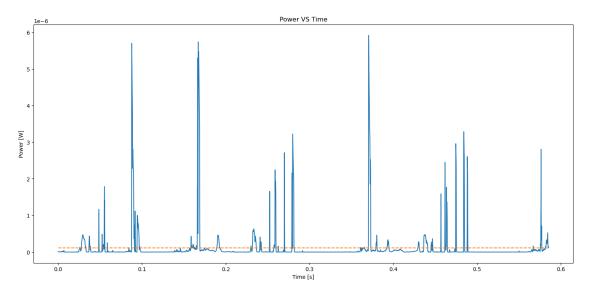






	Variable	Min	Max	Peak to peak	Mean	Mean of absolute value
0	Pressure [Bar]	-1.75e-03	5.34e-01	5.35e-01	2.24e-01	2.24e-01
1	Voltage [V]	-2.39e+00	2.43e+00	4.82e + 00	-1.35e-03	1.54e-01

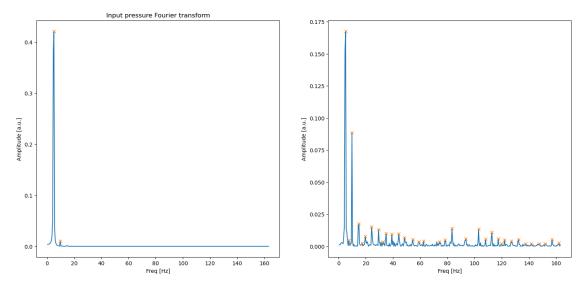
3 POWER



Mean power: 1.17e-07 [W]

4 FREQUENCY ANALYSIS

If an harmonic appears in the pressure Fourier transform. The piston has to be set to atmospheric pressure.



4.1 Voltage frequency peaks

Freq [Hz]		_	
1 7.45 0.47 2 9.78 8.87 3 14.90 1.76 4 17.23 0.24 5 19.56 0.78 6 24.22 1.50 7 29.34 1.30 8 32.60 0.34 9 34.93 1.00 10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41		Freq [Hz]	Amplitude percentage
2 9.78 8.87 3 14.90 1.76 4 17.23 0.24 5 19.56 0.78 6 24.22 1.50 7 29.34 1.30 8 32.60 0.34 9 34.93 1.00 10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 <tr< td=""><td>0</td><td>5.12</td><td>16.76</td></tr<>	0	5.12	16.76
3 14.90 1.76 4 17.23 0.24 5 19.56 0.78 6 24.22 1.50 7 29.34 1.30 8 32.60 0.34 9 34.93 1.00 10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19	1	7.45	0.47
4 17.23 0.24 5 19.56 0.78 6 24.22 1.50 7 29.34 1.30 8 32.60 0.34 9 34.93 1.00 10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20	2	9.78	8.87
5 19.56 0.78 6 24.22 1.50 7 29.34 1.30 8 32.60 0.34 9 34.93 1.00 10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21	3	14.90	1.76
6 24.22 1.50 7 29.34 1.30 8 32.60 0.34 9 34.93 1.00 10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 156.94 0.53 <td>4</td> <td>17.23</td> <td>0.24</td>	4	17.23	0.24
7 29.34 1.30 8 32.60 0.34 9 34.93 1.00 10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53 </td <td>5</td> <td>19.56</td> <td>0.78</td>	5	19.56	0.78
8 32.60 0.34 9 34.93 1.00 10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	6	24.22	1.50
9 34.93 1.00 10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	7	29.34	1.30
10 39.12 0.96 11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	8	32.60	0.34
11 44.24 0.99 12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	9	34.93	1.00
12 48.43 0.69 13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	10	39.12	0.96
13 54.49 0.53 14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	11	44.24	0.99
14 59.14 0.35 15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	12	48.43	0.69
15 62.40 0.41 16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	13	54.49	0.53
16 74.04 0.36 17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	14	59.14	0.35
17 78.24 0.50 18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	15	62.40	0.41
18 83.36 1.40 19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	16	74.04	0.36
19 93.60 0.60 20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	17	78.24	0.50
20 102.92 1.32 21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	18	83.36	1.40
21 108.04 0.56 22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	19	93.60	0.60
22 112.70 1.11 23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	20	102.92	1.32
23 117.35 0.60 24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	21	108.04	0.56
24 119.68 0.20 25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	22	112.70	1.11
25 122.01 0.52 26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	23	117.35	0.60
26 127.13 0.41 27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	24	119.68	0.20
27 132.26 0.54 28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	25	122.01	0.52
28 137.38 0.19 29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	26	127.13	0.41
29 141.57 0.20 30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	27	132.26	0.54
30 147.62 0.21 31 151.81 0.21 32 156.94 0.53	28	137.38	0.19
31 151.81 0.21 32 156.94 0.53			
$32 156.94 \qquad 0.53$			
33 162.06 0.26			
	33	162.06	0.26

4.2 Pressure frequency peaks

	Freq [Hz]	Amplitude percentage
0	5.12	42.10
1	9.78	1.00