



### Rig Mass Flow Rate Calculations

Please Enter Parameters in highlighted boxes below

Engine Data File		
<b>Ambient Conditions</b>		
Air Temperature	5	[C]
Atmospheric Pressure	975	[mBar]
Air Humidity	95	[%]
<b>Viper Engine Parameters</b>		
Engine Air Intake Mass Flow	18.7	[Kg/s]
Butane Flow Rate	1732	[Ltr/h]
Engine Speed	12150	[RPM]
ETC	650	[C]
<b>Gas Delivery System Data File</b>		
<b>Gas Delivery System</b>		
Mixed Gas (Fuel) Mass Flow rate	0.017	[Kg/s]
Oxygen Mass Flow rate	0.155	[Kg/s]

Please do not change anything in this box

Test Date and Time = 29.10.2014 11:50:40.4

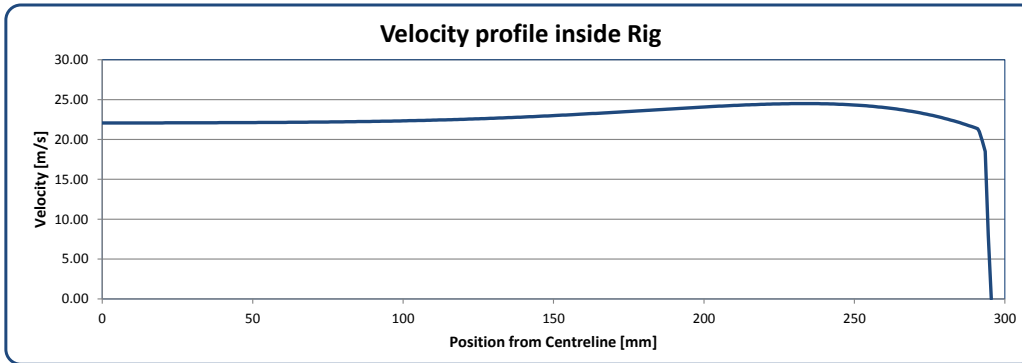
Calculated Parameters		
Air density	1.217898	[Kg/m <sup>3</sup> ]
Liquid Butane density	584	[Kg/m <sup>3</sup> ]
Butane mass Flow rate	0.280969	[Kg/s]
Air Fuel Ratio	79.23263	[ ]
<b>Calculated Exhaust gas properties (Reaction Engines)</b>		
Exhaust products density	0.389	[Kg/m <sup>3</sup> ]
<b>Pitot Traverse Results</b>		
Rig Gas flow rate - Integrated	2.459791	[Kg/s]
Total Rig Mass flow	2.631791	[Kg/s]
<b>Rig Gas Temperature as read from TC 11</b>		
Gas Temperature	514	[C]

Bruce Ewan to fill in

Note

Manual for viper 201 gives figures for fuel flow rate to be as follows at maximum power

Fuel Flow	2035	lb/hr	to	2920	lb/hr
	925	Kg/hr		1327.273	Kg/hr
	1156.25	ltr/hr		1659.091	ltr/hr



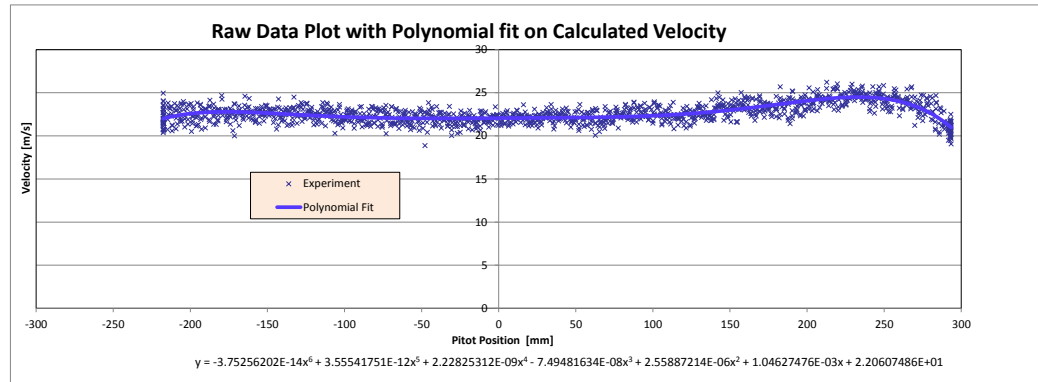
**Data Acquisition Parameters**

Sampling Rate	1000	[Hz]	
No of samples recorded	100	Samples	
Averaged samples sampling rate	10	[Hz]	
Pitot Traverse speed	7	[mm/s]	Averaged Pitot dp
Distance Travelled every 0.1sec	0.7	[mm]	0.999996127
		Average Vel	22.6463084 [m/s]

**Raw Data from CSV File**

Date and time [dd:mm:yyyy hh:mm:ss.ms]	Pitot Position from rig centre [mm]	TC11 - Pitot [deg C]	Pitot dP [mBar]	O2 %
29.10.2014 11:50:40.4	-217.55	512.3	1.1198	16.33
29.10.2014 11:50:40.5	-217.56	512.4	1.2117	16.21
29.10.2014 11:50:40.6	-217.56	512.5	0.9017	16.36
29.10.2014 11:50:40.7	-217.55	512.5	0.8394	16.31
29.10.2014 11:50:40.8	-217.55	512.4	0.8074	16.53
29.10.2014 11:50:40.9	-217.55	512.4	0.8837	16.23
29.10.2014 11:50:41.0	-217.52	512.5	0.9359	16.26
29.10.2014 11:50:41.1	-217.53	512.4	0.8403	16.37
29.10.2014 11:50:41.2	-217.58	512.2	0.912	16.29
29.10.2014 11:50:41.3	-217.55	512.3	0.9419	16.17
29.10.2014 11:50:41.4	-217.53	512.4	0.9987	16.43
29.10.2014 11:50:41.5	-217.57	512.1	0.9396	16.42
29.10.2014 11:50:41.6	-217.55	512	0.8339	16.29
29.10.2014 11:50:41.7	-217.5	512.1	0.9283	16.21
29.10.2014 11:50:41.8	-217.34	512.2	0.9674	16.36
29.10.2014 11:50:41.9	-216.88	511.9	0.8356	16.37
29.10.2014 11:50:42.0	-216.94	511.9	0.8936	16.25
29.10.2014 11:50:42.1	-216.79	512.1	0.94	16.28
29.10.2014 11:50:42.2	-214.2	512.1	0.9831	16.33
29.10.2014 11:50:42.3	-214.35	511.8	1.0582	16.38
29.10.2014 11:50:42.4	-214.36	511.8	1.1025	16.24
29.10.2014 11:50:42.5	-213.1	512	1.0412	16.31
29.10.2014 11:50:42.6	-211.58	512	0.872	16.31
29.10.2014 11:50:42.7	-211.77	511.9	0.8245	16.32
29.10.2014 11:50:42.8	-211.78	512	0.8804	16.19
29.10.2014 11:50:42.9	-210.28	512.1	1.0411	16.34
29.10.2014 11:50:43.0	-209.1	512.1	0.9454	16.4
29.10.2014 11:50:43.1	-209.18	512	0.8431	16.29
29.10.2014 11:50:43.2	-208.33	512.1	0.889	16.21
29.10.2014 11:50:43.3	-205.96	512.2	1.089	16.38
29.10.2014 11:50:43.4	-206.23	512	0.9305	16.41
29.10.2014 11:50:43.5	-206.21	511.9	0.9114	16.27
29.10.2014 11:50:43.6	-205.3	512.1	0.9171	16.21
29.10.2014 11:50:43.7	-203.43	512.1	0.9695	16.36
29.10.2014 11:50:43.8	-203.62	512	0.9382	16.42
29.10.2014 11:50:43.9	-203.63	511.9	0.8598	16.25
29.10.2014 11:50:44.0	-201.49	512.1	0.9912	16.27
29.10.2014 11:50:44.1	-200.97	512.2	1.0868	16.32
29.10.2014 11:50:44.2	-201.03	511.9	1.0829	16.39
29.10.2014 11:50:44.3	-199.48	511.9	1.0968	16.3
29.10.2014 11:50:44.4	-197.97	512.1	1.0336	16.29
29.10.2014 11:50:44.5	-198.07	512.2	0.9636	16.3
29.10.2014 11:50:44.6	-198.07	511.9	1.0593	16.37
29.10.2014 11:50:44.7	-195.48	511.9	1.1045	16.27
29.10.2014 11:50:44.8	-195.5	512.2	0.9946	16.3
29.10.2014 11:50:44.9	-195.44	512.2	0.9701	16.4
29.10.2014 11:50:45.0	-194.68	512.1	0.8838	16.3
29.10.2014 11:50:45.1	-192.73	512.1	0.8396	16.23
29.10.2014 11:50:45.2	-192.9	512.1	1.0409	16.4
29.10.2014 11:50:45.3	-192.71	512	0.9475	16.35
29.10.2014 11:50:45.4	-190.18	511.9	0.852	16.31
29.10.2014 11:50:45.5	-190.32	512	0.9609	16.24
29.10.2014 11:50:45.6	-190.25	512.1	1.0096	16.32
29.10.2014 11:50:45.7	-189.92	511.9	1.0404	16.38
29.10.2014 11:50:45.8	-187.54	511.9	0.912	16.29
29.10.2014 11:50:45.9	-187.73	512.1	1.0606	16.22
29.10.2014 11:50:46.0	-187.72	512.2	0.9311	16.37
29.10.2014 11:50:46.1	-184.91	512	1.0901	16.37
29.10.2014 11:50:46.2	-184.73	512	0.96	16.32
29.10.2014 11:50:46.3	-184.73	512.3	0.8863	16.24

Calculated Velocity [m/s]
23.9944295
24.9596075
21.5313486
20.7742178
20.3743879
21.3153577
21.9358729
20.7853518
21.6539743
22.0060753
22.6598861
21.9791909
20.7060465
21.8466259
22.3019706
20.7271415
21.434422
21.9838688
22.4822123
23.3251302
23.8083608
23.1370123
21.1737821
20.589013
21.2755215
23.1359012
22.0469236
20.8199529
21.3791817
23.6621464
21.872498
21.6468501
21.7144355
22.3261637
21.9628104
21.025141
22.5746405
23.6382332
23.5957819
23.7467357
23.052416
22.2581258
23.3372503
23.8299459
22.613325
22.3330711
21.3165637
20.7766925
23.1336788
22.0713962
20.929555
22.2269204
22.7832076
23.128122
21.6539743
23.3515659
21.8795487
23.674094
22.2165088
21.3466914



29.10.2014 11:50:46.4	-183.99	512.4	1.0042	16.34	22.7221962
29.10.2014 11:50:46.5	-181.97	512.2	0.92	16.34	21.7487405
29.10.2014 11:50:46.6	-182.21	512.2	0.932	16.32	21.8901206
29.10.2014 11:50:46.7	-182.17	512.4	1.0328	16.3	23.043493
29.10.2014 11:50:46.8	-181.16	512.4	1.0315	16.37	23.0289859
29.10.2014 11:50:46.9	-179.41	512.2	1.1451	16.31	24.2639725
29.10.2014 11:50:47.0	-179.58	512.3	1.1857	16.28	24.6903705
29.10.2014 11:50:47.1	-179.18	512.5	1.0204	16.34	22.9047429
29.10.2014 11:50:47.2	-176.44	512.4	1.0373	16.4	23.0936397
29.10.2014 11:50:47.3	-176.63	512.4	0.9109	16.29	21.6409115
29.10.2014 11:50:47.4	-176.6	512.5	0.9344	16.23	21.9182871
29.10.2014 11:50:47.5	-176.11	512.6	0.9485	16.32	22.0830403
29.10.2014 11:50:47.6	-173.85	512.6	0.9583	16.48	22.1968293
29.10.2014 11:50:47.7	-174.01	512.5	0.8871	16.23	21.3563233
29.10.2014 11:50:47.8	-174.01	512.7	1.0456	16.24	23.185848
29.10.2014 11:50:47.9	-172.34	512.8	0.8254	16.35	20.6002471
29.10.2014 11:50:48.0	-171.34	512.6	0.7789	16.37	20.0115648
29.10.2014 11:50:48.1	-171.47	512.6	1.0954	16.29	23.7315752
29.10.2014 11:50:48.2	-170.47	512.7	0.9266	16.25	21.8266128
29.10.2014 11:50:48.3	-168.22	512.8	0.874	16.34	21.1980501
29.10.2014 11:50:48.4	-168.47	512.5	1.0212	16.42	22.9137199
29.10.2014 11:50:48.5	-168.45	512.4	1.0708	16.25	23.4635855
29.10.2014 11:50:48.6	-166.39	512.6	0.9806	16.32	22.4536083
29.10.2014 11:50:48.7	-165.86	512.7	0.9845	16.34	22.4982147
29.10.2014 11:50:48.8	-165.85	512.5	0.947	16.34	22.0655718
29.10.2014 11:50:48.9	-165.49	512.5	0.9318	16.28	21.8877717
29.10.2014 11:50:49.0	-163.13	512.7	1.0135	16.28	22.82717
29.10.2014 11:50:49.1	-163.27	512.7	1.0035	16.4	22.7142753
29.10.2014 11:50:49.2	-163.28	512.6	0.9679	16.3	22.3077332
29.10.2014 11:50:49.3	-161.51	512.6	1.0091	16.24	22.7775653
29.10.2014 11:50:49.4	-160.24	512.8	0.937	16.32	21.9487601
29.10.2014 11:50:49.5	-160.28	512.8	1.0059	16.44	22.7414212
29.10.2014 11:50:49.6	-160.38	512.7	1.0175	16.28	22.8721719
29.10.2014 11:50:49.7	-157.64	512.8	1.0429	16.21	23.1558928
29.10.2014 11:50:49.8	-157.74	512.9	0.9135	16.39	21.6717745
29.10.2014 11:50:49.9	-157.76	512.9	0.9036	16.4	21.5540213
29.10.2014 11:50:50.0	-157.58	512.8	0.9303	16.27	21.8701473
29.10.2014 11:50:50.1	-154.95	513	1.0257	16.22	22.96415
29.10.2014 11:50:50.2	-155.18	513.1	0.8959	16.38	21.4619889
29.10.2014 11:50:50.3	-155.16	512.9	0.9612	16.42	22.2303898
29.10.2014 11:50:50.4	-152.63	512.8	0.9853	16.26	22.5073538
29.10.2014 11:50:50.5	-152.22	513	1.0294	16.27	23.0055319
29.10.2014 11:50:50.6	-152.17	513	0.9182	16.34	21.7274541
29.10.2014 11:50:50.7	-152.13	512.8	0.9834	16.38	22.4856424
29.10.2014 11:50:50.8	-149.76	512.7	1.0355	16.27	23.0735941
29.10.2014 11:50:50.9	-149.6	512.9	0.9984	16.3	22.6564824
29.10.2014 11:50:51.0	-149.58	512.9	1.0029	16.34	22.7074838
29.10.2014 11:50:51.1	-148.89	512.7	0.9735	16.33	22.3721733
29.10.2014 11:50:51.2	-146.86	512.7	1.0262	16.27	22.9697465
29.10.2014 11:50:51.3	-147.02	512.8	0.9969	16.32	22.6394564
29.10.2014 11:50:51.4	-146.99	512.7	0.9781	16.37	22.4249677
29.10.2014 11:50:51.5	-144.8	512.6	0.9414	16.28	22.0002337
29.10.2014 11:50:51.6	-143.99	512.5	0.9838	16.3	22.490215
29.10.2014 11:50:51.7	-144.04	512.6	0.8412	16.33	20.7964798
29.10.2014 11:50:51.8	-142.89	512.5	0.8809	16.4	21.2815621
29.10.2014 11:50:51.9	-141.31	512.3	0.9587	16.28	22.2014613
29.10.2014 11:50:52.0	-141.47	512.4	0.9503	16.24	22.1039842
29.10.2014 11:50:52.1	-140.97	512.4	1.0332	16.35	23.0479549
29.10.2014 11:50:52.2	-138.66	512.3	0.92	16.41	21.7487405
29.10.2014 11:50:52.3	-138.9	512.2	1.0054	16.24	22.7357685
29.10.2014 11:50:52.4	-138.86	512.3	0.9779	16.24	22.4226749
29.10.2014 11:50:52.5	-137.24	512.4	0.8737	16.36	21.1944116
29.10.2014 11:50:52.6	-136.21	512.2	0.8833	16.38	21.310533
29.10.2014 11:50:52.7	-136.31	512.1	0.9928	16.27	22.5928533
29.10.2014 11:50:52.8	-136.24	512.4	1.0285	16.29	22.9954729
29.10.2014 11:50:52.9	-133.57	512.4	0.9085	16.33	21.6123834
29.10.2014 11:50:53.0	-133.69	512.2	1.0424	16.38	23.1503413
29.10.2014 11:50:53.1	-133.68	512.2	0.9466	16.3	22.0609112
29.10.2014 11:50:53.2	-132.48	512.5	1.0224	16.38	22.9271788
29.10.2014 11:50:53.3	-130.55	512.5	0.9618	16.37	22.2373271
29.10.2014 11:50:53.4	-130.75	512.4	0.8951	16.38	21.4524044
29.10.2014 11:50:53.5	-130.75	512.4	0.9739	16.21	22.3767691

29.10.2014 11:50:53.6	-128.49	512.5	0.9702	16.37	22.3342222
29.10.2014 11:50:53.7	-128.09	512.6	1.1074	16.37	23.8612097
29.10.2014 11:50:53.8	-128.16	512.5	1.0611	16.28	23.3570696
29.10.2014 11:50:53.9	-128.14	512.6	1.0585	16.26	23.3284363
29.10.2014 11:50:54.0	-125.63	512.8	0.9884	16.44	22.5427329
29.10.2014 11:50:54.1	-125.58	512.8	0.957	16.41	22.1817684
29.10.2014 11:50:54.2	-125.59	512.7	0.9394	16.2	21.9768516
29.10.2014 11:50:54.3	-123.55	512.9	1.0254	16.26	22.9607914
29.10.2014 11:50:54.4	-122.55	513	0.9495	16.34	22.0946783
29.10.2014 11:50:54.5	-122.54	512.8	1.0199	16.46	22.8991306
29.10.2014 11:50:54.6	-122.46	512.8	1.0095	16.22	22.7820793
29.10.2014 11:50:54.7	-119.87	512.9	0.8815	16.26	21.2888085
29.10.2014 11:50:54.8	-120.02	513	0.924	16.35	21.7959691
29.10.2014 11:50:54.9	-119.97	512.7	0.9749	16.4	22.3882544
29.10.2014 11:50:55.0	-117.85	512.6	0.8874	16.25	21.3599341
29.10.2014 11:50:55.1	-117.46	512.8	0.9148	16.32	21.6871895
29.10.2014 11:50:55.2	-117.35	512.8	1.0133	16.34	22.8249176
29.10.2014 11:50:55.3	-116.9	512.5	0.9863	16.38	22.5187725
29.10.2014 11:50:55.4	-114.66	512.5	0.9724	16.27	22.3595301
29.10.2014 11:50:55.5	-114.81	512.7	1.0639	16.31	23.3878663
29.10.2014 11:50:55.6	-114.79	512.6	0.8951	16.38	21.4524044
29.10.2014 11:50:55.7	-112.27	512.4	0.8714	16.31	21.1664963
29.10.2014 11:50:55.8	-112.26	512.3	1.0044	16.28	22.7244588
29.10.2014 11:50:55.9	-112.23	512.4	1.0336	16.31	23.052416
29.10.2014 11:50:56.0	-111.34	512.3	1.1012	16.42	23.79432
29.10.2014 11:50:56.1	-109.41	512.2	0.9844	16.28	22.4970721
29.10.2014 11:50:56.2	-109.67	512.3	1.0366	16.24	23.0858463
29.10.2014 11:50:56.3	-109.4	512.3	0.993	16.34	22.5951288
29.10.2014 11:50:56.4	-106.89	512.1	1.0109	16.43	22.7978712
29.10.2014 11:50:56.5	-107.09	512	0.973	16.28	22.3664273
29.10.2014 11:50:56.6	-107.07	512.2	0.9198	16.2	21.7463763
29.10.2014 11:50:56.7	-105.73	512.1	0.9102	16.42	21.6325947
29.10.2014 11:50:56.8	-104.33	511.8	0.8806	16.39	21.2779379
29.10.2014 11:50:56.9	-104.45	511.7	0.9314	16.29	21.8830732
29.10.2014 11:50:57.0	-103.9	511.9	0.8985	16.23	21.4931088
29.10.2014 11:50:57.1	-101.69	511.9	0.9053	16.32	21.5742873
29.10.2014 11:50:57.2	-101.88	511.6	0.9429	16.39	22.017754
29.10.2014 11:50:57.3	-101.89	511.5	0.8999	16.27	21.5098471
29.10.2014 11:50:57.4	-100.16	511.7	0.9317	16.27	21.8865972
29.10.2014 11:50:57.5	-99.2	511.7	0.9798	16.26	22.4444473
29.10.2014 11:50:57.6	-99.22	511.6	0.929	16.39	21.8548613
29.10.2014 11:50:57.7	-99.15	511.6	0.9331	16.22	21.9030347
29.10.2014 11:50:57.8	-96.58	511.8	0.9232	16.33	21.7865315
29.10.2014 11:50:57.9	-96.69	511.7	0.9722	16.36	22.3572306
29.10.2014 11:50:58.0	-96.7	511.6	0.9182	16.32	21.7274541
29.10.2014 11:50:58.1	-95.36	511.7	0.9111	16.24	21.6432871
29.10.2014 11:50:58.2	-93.55	511.8	0.8923	16.34	21.4188251
29.10.2014 11:50:58.3	-93.71	511.7	1.0057	16.43	22.7391602
29.10.2014 11:50:58.4	-93.73	511.6	0.8494	16.26	20.8975958
29.10.2014 11:50:58.5	-91.35	511.7	0.9388	16.21	21.9698321
29.10.2014 11:50:58.6	-91.12	511.7	0.9452	16.44	22.0445914
29.10.2014 11:50:58.7	-91.18	511.7	0.9067	16.42	21.5909626
29.10.2014 11:50:58.8	-89.52	511.6	0.9225	16.24	21.7782703
29.10.2014 11:50:58.9	-88.51	511.7	0.8619	16.25	21.0508016
29.10.2014 11:50:59.0	-88.55	511.8	0.9353	16.37	21.9288403
29.10.2014 11:50:59.1	-88.43	511.5	0.9184	16.41	21.7298203
29.10.2014 11:50:59.2	-85.85	511.4	0.8831	16.25	21.3081203
29.10.2014 11:50:59.3	-86.01	511.5	0.8853	16.28	21.3346454
29.10.2014 11:50:59.4	-85.94	511.5	0.9576	16.37	22.1887208
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29.10.2014 11:50:59.7	-83.36	511.4	0.9597	16.28	22.2130372
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29.10.2014 11:51:00.7	-75.62	510.6	0.8916	16.27	21.410422

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29.10.2014 11:51:01.5	-70.04	510.4	0.8724	16.26	21.1786379
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29.10.2014 11:51:20.8	76.05	511.2	1.0188	16.35	22.8867784
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29.10.2014 11:51:21.1	78.64	511.3	0.9802	16.24	22.4490282
29.10.2014 11:51:21.2	78.67	511.3	0.9615	16.36	22.2338587
29.10.2014 11:51:21.3	80.67	511	0.9773	16.31	22.415795
29.10.2014 11:51:21.4	81.23	511	0.9526	16.35	22.1307171
29.10.2014 11:51:21.5	81.26	511.2	1.0031	16.28	22.7097479
29.10.2014 11:51:21.6	81.6	511.2	1.0337	16.4	23.0535311
29.10.2014 11:51:21.7	84	511.1	0.9499	16.3	22.0993317
29.10.2014 11:51:21.8	83.83	511.1	0.9869	16.3	22.5256209
29.10.2014 11:51:21.9	83.87	511.2	0.9315	16.31	21.884248
29.10.2014 11:51:22.0	85.48	511.2	0.9479	16.43	22.0760546
29.10.2014 11:51:22.1	86.9	511.1	0.9064	16.27	21.5873904
29.10.2014 11:51:22.2	86.83	511.3	0.9293	16.24	21.8583898
29.10.2014 11:51:22.3	86.82	511.3	0.9412	16.37	21.9978966

29.10.2014 11:51:22.4	89.45	511.2	1.0057	16.43	22.7391602
29.10.2014 11:51:22.5	89.42	511.2	0.9511	16.3	22.1132863
29.10.2014 11:51:22.6	89.42	511.4	0.9082	16.21	21.6088147
29.10.2014 11:51:22.7	91.3	511.5	1.0354	16.38	23.07248
29.10.2014 11:51:22.8	92.03	511.3	1.0053	16.41	22.7346377
29.10.2014 11:51:22.9	91.96	511.4	1.0704	16.27	23.4592027
29.10.2014 11:51:23.0	92.27	511.6	0.9367	16.26	21.9452462
29.10.2014 11:51:23.1	94.72	511.7	1.1002	16.36	23.7835138
29.10.2014 11:51:23.2	94.56	511.5	1.028	16.37	22.9898827
29.10.2014 11:51:23.3	94.61	511.5	0.9737	16.28	22.3744713
29.10.2014 11:51:23.4	95.95	511.8	0.9668	16.28	22.2950535
29.10.2014 11:51:23.5	97.27	511.8	0.9294	16.37	21.8595658
29.10.2014 11:51:23.6	97.18	511.7	0.928	16.32	21.8430955
29.10.2014 11:51:23.7	97.17	511.7	0.9629	16.29	22.2500397
29.10.2014 11:51:23.8	100.05	511.8	0.8965	16.31	21.4691744
29.10.2014 11:51:23.9	100.14	511.8	0.9192	16.41	21.7392824
29.10.2014 11:51:24.0	100.14	511.8	0.9991	16.3	22.6644235
29.10.2014 11:51:24.1	100.95	511.8	0.9874	16.24	22.5313264
29.10.2014 11:51:24.2	102.96	511.8	0.9668	16.34	22.2950535
29.10.2014 11:51:24.3	102.66	511.7	0.9743	16.44	22.3813639
29.10.2014 11:51:24.4	102.71	511.5	1.0464	16.25	23.1947162
29.10.2014 11:51:24.5	104.76	511.7	1.0679	16.25	23.4317913
29.10.2014 11:51:24.6	105.33	511.7	0.9815	16.37	22.4639099
29.10.2014 11:51:24.7	105.29	511.5	1.0015	16.42	22.691629
29.10.2014 11:51:24.8	105.79	511.4	0.9423	16.25	22.0107476
29.10.2014 11:51:24.9	108.47	511.5	1.015	16.27	22.8440561
29.10.2014 11:51:25.0	108.22	511.6	1.0262	16.33	22.9697465
29.10.2014 11:51:25.1	108.27	511.4	0.9776	16.41	22.4192352
29.10.2014 11:51:25.2	109.77	511.3	0.9947	16.27	22.6144618
29.10.2014 11:51:25.3	110.93	511.6	0.9083	16.25	21.6100043
29.10.2014 11:51:25.4	110.87	511.5	0.9468	16.36	22.0632417
29.10.2014 11:51:25.5	111.57	511.3	0.9817	16.34	22.4661985
29.10.2014 11:51:25.6	113.66	511.2	0.8438	16.31	20.8285941
29.10.2014 11:51:25.7	113.43	511.4	0.9691	16.27	22.3215575
29.10.2014 11:51:25.8	113.44	511.4	0.9783	16.36	22.4272603
29.10.2014 11:51:25.9	115.31	511.3	0.9718	16.29	22.3526308
29.10.2014 11:51:26.0	116.1	511.4	0.9796	16.27	22.4421564
29.10.2014 11:51:26.1	116.04	511.6	0.9564	16.3	22.1748138
29.10.2014 11:51:26.2	116.34	511.6	0.8785	16.27	21.2525516
29.10.2014 11:51:26.3	118.79	511.5	0.9633	16.39	22.2546607
29.10.2014 11:51:26.4	118.6	511.6	0.99	16.22	22.5609714
29.10.2014 11:51:26.5	118.62	511.7	0.9159	16.32	21.7002245
29.10.2014 11:51:26.6	120.18	511.6	0.8724	16.3	21.1786379
29.10.2014 11:51:26.7	121.71	511.5	0.911	16.31	21.6420993
29.10.2014 11:51:26.8	121.59	511.7	0.8501	16.24	20.906205
29.10.2014 11:51:26.9	121.6	511.8	1.0139	16.35	22.8316742
29.10.2014 11:51:27.0	124.18	511.6	0.8683	16.39	21.1288129
29.10.2014 11:51:27.1	124.15	511.6	0.9801	16.27	22.4478831
29.10.2014 11:51:27.2	124.19	511.7	1.0319	16.26	23.0334506
29.10.2014 11:51:27.3	125.96	511.8	1.0144	16.45	22.8373032
29.10.2014 11:51:27.4	126.8	511.5	0.9498	16.52	22.0981684
29.10.2014 11:51:27.5	126.77	511.4	0.9315	16.23	21.884248
29.10.2014 11:51:27.6	126.97	511.6	0.8977	16.35	21.4835383
29.10.2014 11:51:27.7	129.52	511.6	0.9694	16.37	22.3250122
29.10.2014 11:51:27.8	129.34	511.4	1.0554	16.23	23.2942505
29.10.2014 11:51:27.9	129.34	511.4	1.0545	16.2	23.2843162
29.10.2014 11:51:28.0	131.6	511.6	0.954	16.31	22.1469734
29.10.2014 11:51:28.1	131.94	511.6	0.9772	16.33	22.4146482
29.10.2014 11:51:28.2	131.91	511.5	0.9756	16.06	22.3962905
29.10.2014 11:51:28.3	133.45	511.6	1.0056	16.51	22.7380297
29.10.2014 11:51:28.4	134.67	511.8	0.924	16.39	21.7959691
29.10.2014 11:51:28.5	134.49	511.8	1.0724	16.44	23.4811087
29.10.2014 11:51:28.6	134.54	511.7	0.9668	16.26	22.2950535
29.10.2014 11:51:28.7	137.21	512	0.9991	16.24	22.6644235
29.10.2014 11:51:28.8	137.04	512.1	0.9676	16.35	22.3042758
29.10.2014 11:51:28.9	137.1	512.1	0.975	16.45	22.3894026
29.10.2014 11:51:29.0	138.04	512.1	1.1376	16.26	24.1843817
29.10.2014 11:51:29.1	139.91	512.3	1.05	16.24	23.2345811
29.10.2014 11:51:29.2	139.69	512.3	0.9318	16.3	21.8877717
29.10.2014 11:51:29.3	139.71	512.2	0.9815	16.44	22.4639099
29.10.2014 11:51:29.4	141.85	512.2	1.0649	16.24	23.3988552
29.10.2014 11:51:29.5	142.33	512.4	1.0775	16.31	23.5368769



29.10.2014 11:51:29.6	142.26	512.6	1.2155	16.33	24.9987146
29.10.2014 11:51:29.7	142.83	512.4	1.0966	16.38	23.7445705
29.10.2014 11:51:29.8	145.48	512.4	1.1371	16.26	24.1790663
29.10.2014 11:51:29.9	145.25	512.6	1.0722	16.33	23.4789191
29.10.2014 11:51:30.0	145.27	512.7	1.0833	16.33	23.6001394
29.10.2014 11:51:30.1	146.9	512.5	0.985	16.34	22.5039271
29.10.2014 11:51:30.2	147.91	512.6	1.0293	16.22	23.0044145
29.10.2014 11:51:30.3	147.81	512.7	1.0304	16.41	23.0167034
29.10.2014 11:51:30.4	148.66	512.7	0.95	16.33	22.1004949
29.10.2014 11:51:30.5	150.62	512.6	0.9102	16.32	21.6325947
29.10.2014 11:51:30.6	150.45	512.7	1.0525	16.17	23.2622249
29.10.2014 11:51:30.7	150.48	512.8	0.9796	16.41	22.4421564
29.10.2014 11:51:30.8	152.49	512.7	1.0191	16.37	22.8901479
29.10.2014 11:51:30.9	153.07	512.7	1.0526	16.25	23.2633299
29.10.2014 11:51:31.0	153.03	512.8	1.07	16.2	23.454819
29.10.2014 11:51:31.1	153.42	512.9	1.1486	16.43	24.3010256
29.10.2014 11:51:31.2	155.76	512.7	1.1327	16.37	24.1322406
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29.10.2014 11:51:31.4	155.63	512.7	1.0331	16.24	23.0468395
29.10.2014 11:51:31.5	157.37	512.8	1.2185	16.46	25.0295455
29.10.2014 11:51:31.6	158.7	512.5	1.1261	16.32	24.0618312
29.10.2014 11:51:31.7	158.55	512.4	1.073	16.36	23.4876766
29.10.2014 11:51:31.8	158.55	512.6	1.0935	16.24	23.7109847
29.10.2014 11:51:31.9	161.27	512.6	1.1338	16.42	24.1439556
29.10.2014 11:51:32.0	161.15	512.3	1.0477	16.33	23.2091197
29.10.2014 11:51:32.1	161.16	512.3	1.0401	16.3	23.1247872
29.10.2014 11:51:32.2	162.19	512.4	1.0033	16.3	22.7120117
29.10.2014 11:51:32.3	163.92	512.4	0.9666	16.45	22.2927473
29.10.2014 11:51:32.4	163.74	512.2	0.9931	16.28	22.5962665
29.10.2014 11:51:32.5	163.76	512.3	0.9937	16.32	22.6030914
29.10.2014 11:51:32.6	166.23	512.4	0.9246	16.31	21.8030445
29.10.2014 11:51:32.7	166.71	512.3	0.9881	16.41	22.5393116
29.10.2014 11:51:32.8	166.72	512.3	1.0184	16.25	22.8822851
29.10.2014 11:51:32.9	167.25	512.4	1.034	16.29	23.0568761
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29.10.2014 11:51:33.2	169.28	512.3	1.1811	16.26	24.64243
29.10.2014 11:51:33.3	171.89	512.5	1.0987	16.27	23.7672952
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29.10.2014 11:51:33.5	171.87	512.3	1.0393	16.41	23.1158922
29.10.2014 11:51:33.6	172.78	512.1	1.0194	16.26	22.8935168
29.10.2014 11:51:33.7	174.72	512.2	1.0885	16.27	23.6567137
29.10.2014 11:51:33.8	174.46	512.2	1.0553	16.38	23.2931469
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29.10.2014 11:51:34.0	176.57	511.8	0.9933	16.29	22.5985417
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29.10.2014 11:51:34.2	177.05	511.9	0.9618	16.34	22.2373271
29.10.2014 11:51:34.3	177.56	511.7	1.066	16.35	23.4109372
29.10.2014 11:51:34.4	180.23	511.7	1.0428	16.28	23.1547826
29.10.2014 11:51:34.5	180.06	511.9	1.0289	16.32	22.9999441
29.10.2014 11:51:34.6	180.01	511.8	1.1758	16.39	24.5870783
29.10.2014 11:51:34.7	181.54	511.7	1.103	16.33	23.813759
29.10.2014 11:51:34.8	182.72	511.7	1.155	16.23	24.3686342
29.10.2014 11:51:34.9	182.62	511.8	1.2837	16.33	25.6904652
29.10.2014 11:51:35.0	183.37	511.6	1.1193	16.46	23.9890721
29.10.2014 11:51:35.1	185.43	511.5	0.9889	16.31	22.548434
29.10.2014 11:51:35.2	185.24	511.6	1.0479	16.16	23.2113349
29.10.2014 11:51:35.3	185.36	511.6	1.0377	16.41	23.0980919
29.10.2014 11:51:35.4	187.93	511.5	1.0872	16.39	23.6425828
29.10.2014 11:51:35.5	187.77	511.4	0.947	16.28	22.0655718
29.10.2014 11:51:35.6	187.79	511.6	0.9243	16.22	21.7995071
29.10.2014 11:51:35.7	189	511.7	0.8927	16.37	21.4236253
29.10.2014 11:51:35.8	190.54	511.6	0.9411	16.39	21.996728
29.10.2014 11:51:35.9	190.36	511.5	1.0217	16.29	22.9193287
29.10.2014 11:51:36.0	190.41	511.8	0.9706	16.27	22.3388258
29.10.2014 11:51:36.1	192.78	511.9	1.1109	16.34	23.8988873
29.10.2014 11:51:36.2	192.94	511.7	0.9964	16.35	22.6337782
29.10.2014 11:51:36.3	192.97	511.8	1.0128	16.29	22.8192856
29.10.2014 11:51:36.4	193.65	512	1.0716	16.32	23.4723488
29.10.2014 11:51:36.5	195.78	512	0.9698	16.37	22.3296177
29.10.2014 11:51:36.6	195.58	511.9	1.0926	16.32	23.7012251
29.10.2014 11:51:36.7	195.58	512	0.985	16.24	22.5039271

29.10.2014 11:51:36.8	197.73	512.2	0.9676	16.34	22.3042758
29.10.2014 11:51:36.9	198.56	512.1	1.1018	16.41	23.8008014
29.10.2014 11:51:37.0	198.48	512.1	1.1598	16.3	24.4192179
29.10.2014 11:51:37.1	198.78	512.2	1.1918	16.22	24.7538006
29.10.2014 11:51:37.2	201.3	512.2	1.2712	16.36	25.565079
29.10.2014 11:51:37.3	201.07	512.1	1.1488	16.42	24.3031412
29.10.2014 11:51:37.4	201.12	512	1.0357	16.23	23.0758223
29.10.2014 11:51:37.5	202.48	512.1	1.0902	16.26	23.6751798
29.10.2014 11:51:37.6	203.82	512.2	1.0929	16.33	23.7044788
29.10.2014 11:51:37.7	203.64	511.9	1.1077	16.49	23.8644415
29.10.2014 11:51:37.8	204.39	511.9	1.1066	16.23	23.8525893
29.10.2014 11:51:37.9	206.88	512	1.2509	16.24	25.360131
29.10.2014 11:51:38.0	206.62	512	1.1636	16.33	24.459189
29.10.2014 11:51:38.1	206.68	511.7	1.0205	16.39	22.9058653
29.10.2014 11:51:38.2	208.21	511.6	1.0565	16.25	23.3063867
29.10.2014 11:51:38.3	208.94	511.8	1.1727	16.28	24.554645
29.10.2014 11:51:38.4	208.89	511.7	1.1694	16.37	24.520072
29.10.2014 11:51:38.5	209.09	511.5	1.1334	16.36	24.1396963
29.10.2014 11:51:38.6	211.97	511.5	1.1466	16.26	24.2798593
29.10.2014 11:51:38.7	211.83	511.7	1.1291	16.33	24.093861
29.10.2014 11:51:38.8	211.82	511.7	1.1584	16.37	24.4044751
29.10.2014 11:51:38.9	214.03	511.5	1.0751	16.33	23.5106496
29.10.2014 11:51:39.0	214.47	511.7	1.1237	16.22	24.0361767
29.10.2014 11:51:39.1	214.44	511.7	1.1824	16.38	24.6559879
29.10.2014 11:51:39.2	214.9	511.7	1.1706	16.42	24.5326497
29.10.2014 11:51:39.3	217.22	511.6	1.0885	16.28	23.6567137
29.10.2014 11:51:39.4	216.99	511.8	1.2531	16.19	25.3824221
29.10.2014 11:51:39.5	217.02	511.8	1.2579	16.41	25.4309893
29.10.2014 11:51:39.6	218.72	511.7	1.2773	16.41	25.6263441
29.10.2014 11:51:39.7	219.69	511.6	1.318	16.3	26.0314226
29.10.2014 11:51:39.8	219.63	511.8	1.2605	16.24	25.4572579
29.10.2014 11:51:39.9	219.73	511.8	1.2656	16.38	25.5087061
29.10.2014 11:51:40.0	222.29	511.6	1.198	16.36	24.8181043
29.10.2014 11:51:40.1	222.15	511.5	1.1721	16.33	24.5483626
29.10.2014 11:51:40.2	222.22	511.8	1.1803	16.27	24.634083
29.10.2014 11:51:40.3	224.58	511.8	1.2204	16.46	25.0490521
29.10.2014 11:51:40.4	225.2	511.6	1.0814	16.39	23.5794342
29.10.2014 11:51:40.5	225.15	511.6	1.1186	16.28	23.9815696
29.10.2014 11:51:40.6	225.15	511.8	1.146	16.29	24.2735058
29.10.2014 11:51:40.7	227.15	511.9	1.1569	16.29	24.3886695
29.10.2014 11:51:40.8	227.36	511.7	1.1644	16.3	24.4675957
29.10.2014 11:51:40.9	227.36	511.8	1.2208	16.16	25.0531569
29.10.2014 11:51:41.0	229.2	511.9	1.3143	16.13	25.9948581
29.10.2014 11:51:41.1	230.46	511.9	1.244	16.26	25.2900907
29.10.2014 11:51:41.2	230.32	511.9	1.1938	16.26	24.774562
29.10.2014 11:51:41.3	230.38	512	1.2244	16.24	25.0900691
29.10.2014 11:51:41.4	233.07	512.1	1.2185	16.33	25.0295455
29.10.2014 11:51:41.5	232.84	512.1	1.2013	16.41	24.8522627
29.10.2014 11:51:41.6	232.89	512.1	1.2001	16.07	24.8398469
29.10.2014 11:51:41.7	234.98	512.3	1.2055	16.5	24.8956692
29.10.2014 11:51:41.8	235.53	512.4	1.2755	16.29	25.6082811
29.10.2014 11:51:41.9	235.51	512.2	1.1414	16.21	24.2247404
29.10.2014 11:51:42.0	235.92	512.2	1.2928	16.15	25.7813627
29.10.2014 11:51:42.1	238.26	512.4	1.1687	16.4	24.5127321
29.10.2014 11:51:42.2	238.05	512.4	1.1351	16.18	24.1577932
29.10.2014 11:51:42.3	238.09	512.1	1.1472	16.34	24.2862111
29.10.2014 11:51:42.4	239.56	512	1.1652	16.12	24.4759995
29.10.2014 11:51:42.5	240.8	512.3	1.214	16.28	24.9832849
29.10.2014 11:51:42.6	240.71	512.3	1.0133	16.27	22.8249176
29.10.2014 11:51:42.7	240.69	512	1.0425	16.34	23.1514517
29.10.2014 11:51:42.8	243.74	512	0.9967	16.36	22.6371853
29.10.2014 11:51:42.9	243.63	512.2	1.1259	16.15	24.0596944
29.10.2014 11:51:43.0	243.62	512.1	1.1825	16.23	24.6570305
29.10.2014 11:51:43.1	244.56	512	1.0668	16.19	23.4197201
29.10.2014 11:51:43.2	246.42	512.1	1.2039	16.17	24.8791423
29.10.2014 11:51:43.3	246.23	512.1	1.1842	16.39	24.674748
29.10.2014 11:51:43.4	246.49	512.1	1.1484	16.18	24.2989098
29.10.2014 11:51:43.5	249.02	511.9	1.0393	16.36	23.1158922
29.10.2014 11:51:43.6	248.8	512	1.1777	16.06	24.6069357
29.10.2014 11:51:43.7	248.83	512	1.0884	16.55	23.655627
29.10.2014 11:51:43.8	251.14	511.8	1.1008	16.4	23.7899981
29.10.2014 11:51:43.9	251.39	511.7	1.1261	16.28	24.0618312

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29.10.2014 11:51:44.1	252.04	511.9	1.0879	16.39	23.6501928
29.10.2014 11:51:44.2	254.23	511.8	1.0094	16.4	22.7809509
29.10.2014 11:51:44.3	253.97	511.8	1.1527	16.28	24.344359
29.10.2014 11:51:44.4	254.01	512	1.1451	16.27	24.2639725
29.10.2014 11:51:44.5	255.8	512	1.165	16.37	24.4738988
29.10.2014 11:51:44.6	256.62	511.9	1.2239	16.38	25.0849457
29.10.2014 11:51:44.7	256.59	511.8	1.2615	16.3	25.467354
29.10.2014 11:51:44.8	256.82	512	1.1911	16.32	24.74653
29.10.2014 11:51:44.9	259.33	512	1.1588	16.36	24.4086882
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29.10.2014 11:51:45.3	262.14	511.9	1.0323	16.41	23.0379144
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29.10.2014 11:51:45.5	262.16	512	1.1031	16.23	23.8148384
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29.10.2014 11:51:46.4	269.88	512.2	1.0658	16.35	23.4087409
29.10.2014 11:51:46.5	269.92	512	0.8757	16.41	21.218656
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29.10.2014 11:51:46.8	272.45	512.3	0.9888	16.35	22.5472939
29.10.2014 11:51:46.9	272.94	512.1	1.0131	16.39	22.822665
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29.10.2014 11:51:47.5	277.67	512.6	1.1585	16.35	24.4055285
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29.10.2014 11:51:48.0	281.68	512.5	0.9284	16.41	21.8478026
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29.10.2014 11:51:54.8	278.13	513.6	1.1075	16.36	23.862287
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29.10.2014 11:51:56.7	265.04	514.4	1.117	16.4	23.9644123
29.10.2014 11:51:56.8	264.69	514.3	1.0781	16.44	23.5434292
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29.10.2014 11:51:57.0	262.59	514.5	1.1065	16.25	23.8515115
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29.10.2014 11:51:57.4	259.85	514.6	1.0484	16.26	23.2168718
29.10.2014 11:51:57.5	257.71	514.6	1.2462	16.38	25.3124435
29.10.2014 11:51:57.6	257.48	514.3	1.1554	16.36	24.3728535
29.10.2014 11:51:57.7	257.22	514.3	1.1814	16.29	24.6455594
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29.10.2014 11:51:58.6	249.37	514.5	1.1168	16.36	23.9622668
29.10.2014 11:51:58.7	249.7	514.4	1.2992	16.45	25.8450992
29.10.2014 11:51:58.8	249.43	514.4	1.2013	16.3	24.8522627
29.10.2014 11:51:58.9	247.38	514.5	1.1864	16.2	24.6976576
29.10.2014 11:51:59.0	246.61	514.6	1.2383	16.38	25.2320847
29.10.2014 11:51:59.1	246.84	514.3	1.2835	16.41	25.6884638
29.10.2014 11:51:59.2	246.71	514.3	1.2257	16.29	25.1033852
29.10.2014 11:51:59.3	244.62	514.5	1.1997	16.23	24.8357069
29.10.2014 11:51:59.4	244.18	514.5	1.1106	16.42	23.8956601
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29.10.2014 11:52:00.0	238.61	514.6	1.198	16.26	24.8181043
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29.10.2014 11:52:00.2	239.2	514.7	1.1465	16.39	24.2788005
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29.10.2014 11:52:01.0	232.9	514.8	1.2132	16.47	24.9750518
29.10.2014 11:52:01.1	230.89	514.7	1.1282	16.26	24.0842566
29.10.2014 11:52:01.2	231.28	514.9	1.1678	16.22	24.5032918
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29.10.2014 11:52:02.3	222.74	514.8	1.0669	16.24	23.4208178
29.10.2014 11:52:02.4	221.63	515	1.168	16.35	24.50539
29.10.2014 11:52:02.5	220.66	515	1.138	16.42	24.1886332
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29.10.2014 11:52:02.8	217.55	515.2	1.0342	16.38	23.0591059
29.10.2014 11:52:02.9	218.02	515	1.1079	16.43	23.8665958
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29.10.2014 11:52:03.1	217.02	515	1.1318	16.23	24.1226515
29.10.2014 11:52:03.2	214.41	515.1	1.1284	16.38	24.0863912
29.10.2014 11:52:03.3	214.87	514.8	1.1192	16.43	23.9880004
29.10.2014 11:52:03.4	214.76	514.7	1.1472	16.31	24.2862111
29.10.2014 11:52:03.5	212.78	514.9	1.3368	16.23	26.2164218
29.10.2014 11:52:03.6	212.2	514.9	1.1473	16.36	24.2872696
29.10.2014 11:52:03.7	212.68	514.7	1.2654	16.34	25.5066905
29.10.2014 11:52:03.8	212	514.6	1.1645	16.36	24.4686463
29.10.2014 11:52:03.9	209.06	514.9	1.1163	16.26	23.9569022
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29.10.2014 11:52:04.1	209.94	514.6	1.155	16.37	24.3686342
29.10.2014 11:52:04.2	207.95	514.7	1.1911	16.4	24.74653
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29.10.2014 11:52:04.4	206.87	514.8	1.1749	16.39	24.5776666
29.10.2014 11:52:04.5	206.69	514.7	1.1769	16.28	24.5985767
29.10.2014 11:52:04.6	203.97	514.8	1.2251	16.28	25.0972402
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29.10.2014 11:52:04.8	204.37	514.9	1.0423	16.47	23.1492309
29.10.2014 11:52:04.9	203.31	514.9	1.0224	16.28	22.9271788
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29.10.2014 11:52:05.2	201.36	514.9	1.1404	16.41	24.2141262
29.10.2014 11:52:05.3	198.87	514.8	1.0201	16.31	22.9013757
29.10.2014 11:52:05.4	198.98	515	1.0288	16.21	22.9988264
29.10.2014 11:52:05.5	198.62	515.1	1.0374	16.42	23.0947529

29.10.2014 11:52:05.6	197.78	514.8	1.1019	16.41	23.8018815
29.10.2014 11:52:05.7	196.22	514.8	1.0803	16.3	23.5674387
29.10.2014 11:52:05.8	196.16	515.1	1.168	16.26	24.50539
29.10.2014 11:52:05.9	196.37	515.2	1.1428	16.37	24.2395924
29.10.2014 11:52:06.0	193.74	515	1.1246	16.36	24.0458003
29.10.2014 11:52:06.1	193.48	515.1	1.0332	16.29	23.0479549
29.10.2014 11:52:06.2	193.05	515.3	1.1198	16.29	23.9944295
29.10.2014 11:52:06.3	192.84	515.3	1.043	16.38	23.157003
29.10.2014 11:52:06.4	190.68	515.2	1.1471	16.34	24.2851526
29.10.2014 11:52:06.5	190.71	515.3	1.2288	16.28	25.1351105
29.10.2014 11:52:06.6	190.48	515.4	1.2371	16.31	25.2198559
29.10.2014 11:52:06.7	188.95	515.3	1.1585	16.46	24.4055285
29.10.2014 11:52:06.8	188.25	515.2	1.1044	16.25	23.8288672
29.10.2014 11:52:06.9	188.17	515.3	1.1625	16.26	24.4476251
29.10.2014 11:52:07.0	187.68	515.3	1.1213	16.37	24.0104947
29.10.2014 11:52:07.1	185.07	515	1.0941	16.44	23.7174889
29.10.2014 11:52:07.2	185.11	514.9	1.1367	16.27	24.1748132
29.10.2014 11:52:07.3	185.41	515	1.0988	16.24	23.7683767
29.10.2014 11:52:07.4	183.67	515	1.0601	16.37	23.3460609
29.10.2014 11:52:07.5	182.68	514.7	1.1191	16.42	23.9869287
29.10.2014 11:52:07.6	182.65	514.6	0.9844	16.27	22.4970721
29.10.2014 11:52:07.7	181.94	514.8	0.9493	16.28	22.0923512
29.10.2014 11:52:07.8	179.49	514.8	1.0439	16.37	23.1669919
29.10.2014 11:52:07.9	180.25	514.5	1.0451	16.38	23.1803037
29.10.2014 11:52:08.0	180.07	514.4	0.962	16.29	22.239639
29.10.2014 11:52:08.1	178.11	514.6	1.0784	16.33	23.5467047
29.10.2014 11:52:08.2	177.42	514.5	1.0757	16.34	23.5172091
29.10.2014 11:52:08.3	177.6	514.3	1.0712	16.35	23.4679676
29.10.2014 11:52:08.4	176.24	514.2	1.0948	16.27	23.7250749
29.10.2014 11:52:08.5	174.55	514.3	1.1021	16.33	23.8040415
29.10.2014 11:52:08.6	175.1	514.2	1.0309	16.4	23.0222872
29.10.2014 11:52:08.7	175.25	514.1	1.0461	16.33	23.191391
29.10.2014 11:52:08.8	172.29	514.2	0.9547	16.23	22.1550971
29.10.2014 11:52:08.9	171.85	514.3	1.0061	16.36	22.7436819
29.10.2014 11:52:09.0	172.54	514.2	1.1121	16.45	23.9117916
29.10.2014 11:52:09.1	170.86	514.1	1.0422	16.25	23.1481203
29.10.2014 11:52:09.2	169.65	514.2	1.0124	16.25	22.814779
29.10.2014 11:52:09.3	169.52	514.3	1.1106	16.37	23.8956601
29.10.2014 11:52:09.4	169.08	514.1	1.0168	16.49	22.864303
29.10.2014 11:52:09.5	166.87	514	1.0677	16.22	23.429597
29.10.2014 11:52:09.6	167.04	514.2	0.9686	16.26	22.3157984
29.10.2014 11:52:09.7	167.01	514.2	1.1423	16.2	24.2342892
29.10.2014 11:52:09.8	165.45	513.9	1.0376	16.44	23.096979
29.10.2014 11:52:09.9	164.7	513.8	1.1577	16.28	24.3971004
29.10.2014 11:52:10.0	164.62	514	1.1484	16.34	24.2989098
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29.10.2014 11:52:10.4	161.7	514	1.0821	16.27	23.5870646
29.10.2014 11:52:10.5	159.49	514	1.1707	16.3	24.5336975
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29.10.2014 11:52:10.7	159.36	514	1.028	16.25	22.9898827
29.10.2014 11:52:10.8	158.52	514.2	1.0585	16.35	23.3284363
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29.10.2014 11:52:11.0	156.86	514.1	1.0955	16.35	23.7326584
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29.10.2014 11:52:11.7	151.36	514.1	1.0617	16.41	23.3636723
29.10.2014 11:52:11.8	151.16	514	1.1352	16.28	24.1588573
29.10.2014 11:52:11.9	149.92	514.2	1.0338	16.25	23.0546462
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29.10.2014 11:52:12.2	148.67	514	0.9721	16.28	22.3560807
29.10.2014 11:52:12.3	146.09	514.3	0.9257	16.3	21.8160103
29.10.2014 11:52:12.4	145.97	514.3	1.0588	16.34	23.3317419
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29.10.2014 11:52:12.6	143.93	514.1	1.0727	16.23	23.4843929
29.10.2014 11:52:12.7	142.75	514.3	1.0702	16.46	23.4570109

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29.10.2014 11:52:13.5	137.68	514.4	0.9224	16.44	21.7770899
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29.10.2014 11:52:14.3	132.35	514.9	1.0649	16.4	23.3988552
29.10.2014 11:52:14.4	130.23	514.6	1.0596	16.33	23.3405546
29.10.2014 11:52:14.5	130.24	514.6	1.0416	16.3	23.1414561
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29.10.2014 11:52:14.8	127.58	514.7	0.9422	16.3	22.0095796
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29.10.2014 11:52:15.4	123.77	515	0.9939	16.32	22.605366
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29.10.2014 11:52:17.5	107.95	515.4	0.9126	16.3	21.6610961
29.10.2014 11:52:17.6	105.93	515.6	0.8921	16.2	21.4164245
29.10.2014 11:52:17.7	105.82	515.7	0.8792	16.38	21.2610171
29.10.2014 11:52:17.8	106.22	515.6	0.9891	16.45	22.5507141
29.10.2014 11:52:17.9	103.98	515.6	1.0807	16.27	23.5718014
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29.10.2014 11:52:18.1	103.26	516	0.9778	16.36	22.4215284
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29.10.2014 11:52:18.9	97.95	516.2	0.9511	16.35	22.1132863
29.10.2014 11:52:19.0	95.41	516	0.9701	16.35	22.3330711
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29.10.2014 11:52:19.4	92.81	516	0.995	16.32	22.6178718
29.10.2014 11:52:19.5	92.55	516.1	0.9683	16.24	22.3123423
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29.10.2014 11:52:19.7	90.16	515.9	1.0476	16.46	23.2080121
29.10.2014 11:52:19.8	90.08	515.8	1.0614	16.26	23.3603712
29.10.2014 11:52:19.9	90.22	515.9	0.9543	16.24	22.1504554

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29.10.2014 11:52:21.4	77.15	515.9	0.9615	16.26	22.2338587
29.10.2014 11:52:21.5	76.89	515.9	1.0144	16.33	22.8373032
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29.10.2014 11:52:22.0	74.53	515.5	0.9359	16.42	21.9358729
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29.10.2014 11:52:22.6	69.1	515.5	1.0282	16.32	22.9921189
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29.10.2014 11:52:23.3	63.53	515.6	1.0251	16.24	22.9574324
29.10.2014 11:52:23.4	63.42	515.8	1.0274	16.36	22.9831726
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29.10.2014 11:52:23.7	60.9	515.8	1.0342	16.2	23.0591059
29.10.2014 11:52:23.8	60.9	515.9	1.0199	16.42	22.8991306
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29.10.2014 11:52:25.4	47.7	515.4	0.9246	16.38	21.8030445
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29.10.2014 11:52:49.0	-130.11	516.6	1.0588	16.38	23.3317419
29.10.2014 11:52:49.1	-129.82	516.5	1.0764	16.39	23.5248597
29.10.2014 11:52:49.2	-132.98	516.4	1.0572	16.33	23.3141064
29.10.2014 11:52:49.3	-132.72	516.7	1.1663	16.19	24.48755
29.10.2014 11:52:49.4	-132.98	516.8	1.0477	16.37	23.2091197
29.10.2014 11:52:49.5	-133.97	516.6	0.8775	16.46	21.2404523
29.10.2014 11:52:49.6	-135.49	516.6	0.9895	16.29	22.5552734
29.10.2014 11:52:49.7	-135.3	516.8	1.0526	16.27	23.2633299
29.10.2014 11:52:49.8	-136.27	516.9	1.0079	16.37	22.764018
29.10.2014 11:52:49.9	-137.89	516.7	0.9805	16.39	22.4524634
29.10.2014 11:52:50.0	-137.93	516.8	1.0518	16.31	23.2544879
29.10.2014 11:52:50.1	-138.14	517.1	1.0259	16.28	22.9663888
29.10.2014 11:52:50.2	-139.73	517.1	1.0116	16.36	22.805763
29.10.2014 11:52:50.3	-140.21	517	0.9329	16.34	21.9006873
29.10.2014 11:52:50.4	-140.57	517	0.9183	16.3	21.7286372
29.10.2014 11:52:50.5	-140.99	517.3	0.9769	16.32	22.4112073
29.10.2014 11:52:50.6	-142.24	517.3	1.0494	16.39	23.2279417
29.10.2014 11:52:50.7	-142.81	517.3	1.1463	16.32	24.2766828
29.10.2014 11:52:50.8	-143.33	517.4	1.0586	16.26	23.3295382
29.10.2014 11:52:50.9	-144.77	517.5	1.0367	16.36	23.0869598
29.10.2014 11:52:51.0	-145.79	517.4	0.9562	16.45	22.1724951
29.10.2014 11:52:51.1	-145.94	517.4	1.0398	16.28	23.121452
29.10.2014 11:52:51.2	-146.03	517.7	0.9026	16.24	21.5420913
29.10.2014 11:52:51.3	-148.69	517.8	0.9966	16.36	22.6360497
29.10.2014 11:52:51.4	-148.24	517.7	1.0376	16.49	23.096979
29.10.2014 11:52:51.5	-148.53	517.8	1.0357	16.28	23.0758223
29.10.2014 11:52:51.6	-150.2	518	1.0725	16.23	23.4822035
29.10.2014 11:52:51.7	-151.38	518.1	0.9653	16.36	22.2777512
29.10.2014 11:52:51.8	-150.83	517.9	1.0718	16.38	23.4745391
29.10.2014 11:52:51.9	-151.2	518	1.0806	16.32	23.5707108
29.10.2014 11:52:52.0	-153.74	518.2	1.0656	16.26	23.4065445
29.10.2014 11:52:52.1	-153.87	518.2	0.9935	16.4	22.6008167
29.10.2014 11:52:52.2	-153.33	518.1	0.9733	16.33	22.3698751
29.10.2014 11:52:52.3	-154.17	518.1	1.0313	16.26	23.0267532
29.10.2014 11:52:52.4	-156.55	518.3	1.0447	16.26	23.1758672
29.10.2014 11:52:52.5	-156.21	518.3	1.0159	16.42	22.8541818
29.10.2014 11:52:52.6	-156.04	518.1	1.0137	16.29	22.8294222
29.10.2014 11:52:52.7	-159.29	518.2	0.9789	16.3	22.4341367
29.10.2014 11:52:52.8	-159.4	518.3	0.9964	16.31	22.6337782
29.10.2014 11:52:52.9	-159.19	518.3	0.9986	16.44	22.6587516
29.10.2014 11:52:53.0	-159.06	518.2	0.9278	16.29	21.8407416
29.10.2014 11:52:53.1	-162.18	518.3	0.9475	16.25	22.0713962
29.10.2014 11:52:53.2	-161.93	518.4	1.0626	16.31	23.3735728
29.10.2014 11:52:53.3	-161.81	518.3	1.1518	16.47	24.3348534
29.10.2014 11:52:53.4	-162.97	518.3	1.0559	16.25	23.2997678
29.10.2014 11:52:53.5	-164.7	518.4	1.0793	16.26	23.5565283
29.10.2014 11:52:53.6	-164.55	518.5	1.1772	16.32	24.6017116
29.10.2014 11:52:53.7	-164.54	518.3	1.0344	16.45	23.0613355
29.10.2014 11:52:53.8	-167.08	518.3	1.0038	16.24	22.7176703
29.10.2014 11:52:53.9	-167.42	518.5	0.9882	16.28	22.5404521
29.10.2014 11:52:54.0	-167.48	518.5	1.0037	16.32	22.7165387
29.10.2014 11:52:54.1	-167.9	518.2	1.0325	16.52	23.040146
29.10.2014 11:52:54.2	-170.78	518.2	0.9602	16.25	22.2188229
29.10.2014 11:52:54.3	-170.4	518.4	1.0153	16.26	22.8474318
29.10.2014 11:52:54.4	-170.48	518.3	0.9754	16.35	22.3939948
29.10.2014 11:52:54.5	-171	518.1	1.0906	16.35	23.6795227
29.10.2014 11:52:54.6	-173.44	518.1	1.0268	16.31	22.9764605
29.10.2014 11:52:54.7	-173.18	518.3	1.0137	16.31	22.8294222
29.10.2014 11:52:54.8	-172.89	518.2	0.9925	16.39	22.5894395
29.10.2014 11:52:54.9	-174.62	518.1	0.9732	16.28	22.3687259
29.10.2014 11:52:55.0	-176	518.2	0.9864	16.27	22.5199141
29.10.2014 11:52:55.1	-175.92	518.3	0.9606	16.33	22.2234504
29.10.2014 11:52:55.2	-175.25	518.2	1.0157	16.45	22.851932
29.10.2014 11:52:55.3	-177.78	518.1	1.0365	16.27	23.0847327
29.10.2014 11:52:55.4	-178.96	518.3	0.973	16.23	22.3664273
29.10.2014 11:52:55.5	-178.81	518.3	1.0089	16.38	22.775308
29.10.2014 11:52:55.6	-179.77	518.2	1.0041	16.44	22.7210648
29.10.2014 11:52:55.7	-181.72	518.2	1.0193	16.27	22.8923939
29.10.2014 11:52:55.8	-181.71	518.3	1.0374	16.25	23.0947529
29.10.2014 11:52:55.9	-181.69	518.4	0.9734	16.36	22.3710242

29.10.2014 11:52:56.0	-183.15	518.3	0.8855	16.42	21.3370552
29.10.2014 11:52:56.1	-184.38	518.4	0.9815	16.25	22.4639099
29.10.2014 11:52:56.2	-184.49	518.6	1.0501	16.24	23.2356875
29.10.2014 11:52:56.3	-184.23	518.7	1.0153	16.34	22.8474318
29.10.2014 11:52:56.4	-187.22	518.6	1.1335	16.4	24.1407612
29.10.2014 11:52:56.5	-187.39	518.6	1.0723	16.27	23.4800139
29.10.2014 11:52:56.6	-187.91	518.8	1.0671	16.3	23.4230129
29.10.2014 11:52:56.7	-187.15	518.8	1.0095	16.38	22.7820793
29.10.2014 11:52:56.8	-190.1	518.7	1.0373	16.36	23.0936397
29.10.2014 11:52:56.9	-190.37	518.8	0.958	16.2	22.1933546
29.10.2014 11:52:57.0	-190.48	518.9	1.0407	16.32	23.1314562
29.10.2014 11:52:57.1	-192.1	518.7	1.0285	16.42	22.9954729
29.10.2014 11:52:57.2	-193.36	518.7	1.0801	16.27	23.565257
29.10.2014 11:52:57.3	-193.4	518.7	1.0883	16.2	23.6545403
29.10.2014 11:52:57.4	-193.13	518.8	0.9324	16.18	21.8948175
29.10.2014 11:52:57.5	-195.45	518.7	0.8761	16.41	21.2235015
29.10.2014 11:52:57.6	-196.17	518.6	0.8702	16.56	21.1519171
29.10.2014 11:52:57.7	-195.97	518.8	0.9502	16.18	22.1028212
29.10.2014 11:52:57.8	-196.37	518.7	0.9835	16.41	22.4867856
29.10.2014 11:52:57.9	-198.76	518.6	0.9646	16.51	22.2696723
29.10.2014 11:52:58.0	-198.58	518.5	0.919	16.25	21.7369173
29.10.2014 11:52:58.1	-198.58	518.7	0.8936	16.26	21.434422
29.10.2014 11:52:58.2	-199.17	518.8	0.8185	16.34	20.5139616
29.10.2014 11:52:58.3	-201.53	518.6	0.8865	16.42	21.3490998
29.10.2014 11:52:58.4	-201.44	518.6	0.933	16.25	21.901861
29.10.2014 11:52:58.5	-202.05	518.8	1.0408	16.31	23.1325675
29.10.2014 11:52:58.6	-204.02	518.8	1.0932	16.33	23.707732
29.10.2014 11:52:58.7	-204.29	518.6	1.0334	16.39	23.0501856
29.10.2014 11:52:58.8	-204.43	518.7	1.119	16.25	23.985857
29.10.2014 11:52:58.9	-205.8	518.8	1.1004	16.37	23.7856754
29.10.2014 11:52:59.0	-206.47	518.8	0.949	16.36	22.08886
29.10.2014 11:52:59.1	-206.93	518.7	1.01	16.46	22.7877205
29.10.2014 11:52:59.2	-206.74	518.8	1.0447	16.05	23.1758672
29.10.2014 11:52:59.3	-208.45	518.9	1.0762	16.44	23.5226741
29.10.2014 11:52:59.4	-209.08	518.8	1.02	16.3	22.9002531
29.10.2014 11:52:59.5	-209.41	518.8	1.0292	16.25	23.003297
29.10.2014 11:52:59.6	-210.2	519	1.0968	16.23	23.7467357
29.10.2014 11:52:59.7	-212.39	519.1	1.0667	16.41	23.4186224
29.10.2014 11:52:59.8	-212.1	519	0.9901	16.39	22.5621108
29.10.2014 11:52:59.9	-212.26	519.1	0.9666	16.34	22.2927473
29.10.2014 11:53:00.0	-213.28	519.3	1.055	16.2	23.2898358
29.10.2014 11:53:00.1	-214.82	519.5	0.9619	16.35	22.2384831
29.10.2014 11:53:00.2	-214.7	519.4	0.9321	16.41	21.8912949
29.10.2014 11:53:00.3	-214.75	519.4	0.8361	16.31	20.7333419
29.10.2014 11:53:00.4	-217.21	519.7	0.8211	16.28	20.5465175
29.10.2014 11:53:00.5	-217.47	519.7	0.8939	16.37	21.4380197
29.10.2014 11:53:00.6	-217.48	519.6	0.8985	16.34	21.4931088
29.10.2014 11:53:00.7	-217.52	519.6	1.0038	16.31	22.7176703
29.10.2014 11:53:00.8	-217.51	519.8	1.1271	16.3	24.0725126
29.10.2014 11:53:00.9	-217.49	519.8	1.0725	16.38	23.4822035
29.10.2014 11:53:01.0	-217.49	519.7	1.0256	16.31	22.9630305
29.10.2014 11:53:01.1	-217.49	519.8	1.045	16.29	23.1791946
29.10.2014 11:53:01.2	-217.44	520	0.8411	16.35	20.7952437
29.10.2014 11:53:01.3	-217.5	519.9	0.8663	16.45	21.1044653
29.10.2014 11:53:01.4	-217.49	519.8	0.8986	16.27	21.4943049
29.10.2014 11:53:01.5	-217.49	519.9	1.0359	16.23	23.0780502
29.10.2014 11:53:01.6	-217.52	520	0.9264	16.35	21.8242572
29.10.2014 11:53:01.7	-217.51	519.8	1.0013	16.44	22.6893631
29.10.2014 11:53:01.8	-217.47	519.8	1.0837	16.27	23.6044961
29.10.2014 11:53:01.9	-217.34	520	1.0341	16.23	23.057991
29.10.2014 11:53:02.0	-217.35	520	0.9199	16.42	21.7475584
29.10.2014 11:53:02.1	-217.32	519.9	0.9779	16.39	22.4226749
29.10.2014 11:53:02.2	-217.36	519.9	0.9755	16.26	22.3951427
29.10.2014 11:53:02.3	-217.34	520.1	0.9107	16.25	21.6385356

Calculation of mass flow rate based on polynomial equation fitted to the experimental data

$$y = -3.75256202E-14x^6 + 3.55541751E-12x^5 + 2.22825312E-09x^4 - 7.49481634E-08x^3 + 2.55887214E-06x^2 + 1.04627476E-03x + 2.20607486E+01$$

Please enter below Polynomial Coefficients

Order no	Coeff
6	-3.752562E-14
5	3.555418E-12
4	2.228253E-09
3	-7.494816E-08
2	2.558872E-06
1	1.046275E-03
0	2.206075E+01

Actual Area	0.274324656	[m <sup>2</sup> ]
Integrated area	0.274324656	[m <sup>2</sup> ]
Area Error	0	[%]
Integrated Mass flow	2.45979142	[Kg/s]

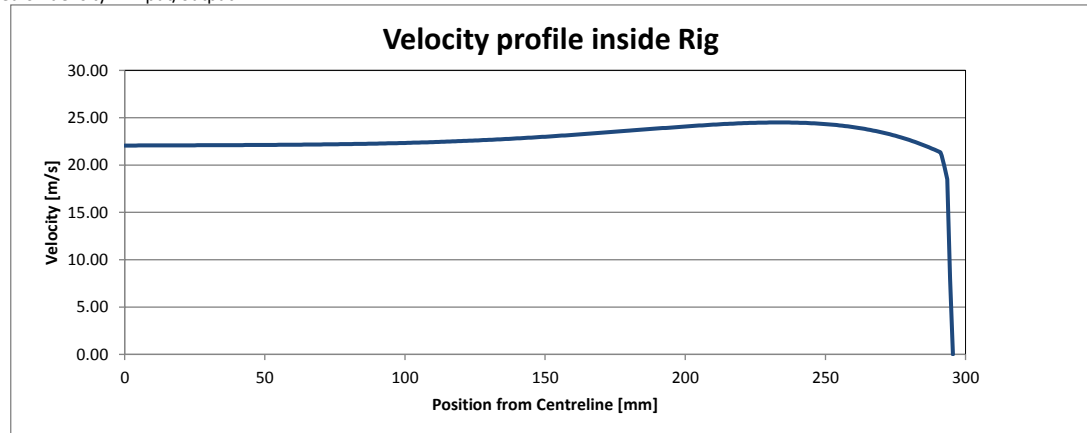
Polynomial curve (dP vs position)

Please do NOT alter any of the figures below

position [mm]	Velocity [m/s]
0	22.060749
1	22.061797
2	22.062851
3	22.063909
4	22.064970
5	22.066036
6	22.067105
7	22.068178
8	22.069253
9	22.070333
10	22.071415
11	22.072501
12	22.073590
13	22.074683
14	22.075780
15	22.076881
16	22.077986
17	22.079097
18	22.080213
19	22.081335
20	22.082464
21	22.083599
22	22.084743
23	22.085896
24	22.087057
25	22.088230
26	22.089413
27	22.090609
28	22.091818
29	22.093041
30	22.094280
31	22.095536
32	22.096809

Delta Area [m <sup>2</sup> ]	Delta Mass flow [Kg/s]
0	0
3.14159E-06	2.69613E-05
9.42478E-06	8.08877E-05
1.5708E-05	0.000134819
2.19911E-05	0.000188756
2.82743E-05	0.000242698
3.45575E-05	0.000296645
4.08407E-05	0.000350598
4.71239E-05	0.000404556
5.34071E-05	0.000458519
5.96903E-05	0.000512487
6.59734E-05	0.000566461
7.22566E-05	0.000620441
7.85398E-05	0.000674425
8.4823E-05	0.000728416
9.11062E-05	0.000782411
9.73894E-05	0.000836413
0.000103673	0.00089042
0.000109956	0.000944432
0.000116239	0.00099845
0.000122522	0.001052475
0.000128805	0.001106505
0.000135088	0.00116054
0.000141372	0.001214582
0.000147655	0.001268631
0.000153938	0.001322685
0.000160221	0.001376746
0.000166504	0.001430814
0.000172788	0.001484888
0.000179071	0.001538969
0.000185354	0.001593057
0.000191637	0.001647153
0.00019792	0.001701256

Based on density in input/output



33	22.098102
34	22.099416
35	22.100751
36	22.102110
37	22.103494
38	22.104904
39	22.106343
40	22.107812
41	22.109312
42	22.110846
43	22.112414
44	22.114020
45	22.115665
46	22.117350
47	22.119079
48	22.120852
49	22.122673
50	22.124542
51	22.126463
52	22.128438
53	22.130468
54	22.132557
55	22.134705
56	22.136917
57	22.139194
58	22.141538
59	22.143953
60	22.146440
61	22.149003
62	22.151643
63	22.154363
64	22.157167
65	22.160056
66	22.163033
67	22.166102
68	22.169264
69	22.172522
70	22.175880
71	22.179340
72	22.182905
73	22.186577
74	22.190360
75	22.194256
76	22.198268
77	22.202399
78	22.206653
79	22.211031
80	22.215536
81	22.220173
82	22.224942

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0.000216777	0.001863612
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0.000229336	0.001971893
0.000235619	0.002026046
0.000241903	0.00208021
0.000248186	0.002134383
0.000254469	0.002188566
0.000260752	0.002242761
0.000267035	0.002296966
0.000273319	0.002351183
0.000279602	0.002405412
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0.000304734	0.002622246
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0.000317301	0.00273107
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0.000348717	0.003002891
0.000355	0.003057312
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0.00037385	0.003220701
0.000380133	0.003275209
0.000386416	0.003329742
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0.000398982	0.003438883
0.000405265	0.003493494
0.000411549	0.003548134
0.000417832	0.003602802
0.000424115	0.003657502
0.000430398	0.003712232
0.000436681	0.003766996
0.000442965	0.003821793
0.000449248	0.003876626
0.000455531	0.003931495
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0.000468097	0.004041349
0.00047438	0.004096335
0.000480664	0.004151364
0.000486947	0.004206436
0.00049323	0.004261552
0.000499513	0.004316715
0.000505796	0.004371926
0.00051208	0.004427186

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85	22.240081
86	22.245414
87	22.250894
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89	22.262309
90	22.268250
91	22.274351
92	22.280613
93	22.287040
94	22.293634
95	22.300399
96	22.307337
97	22.314450
98	22.321742
99	22.329214
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106	22.386801
107	22.395811
108	22.405024
109	22.414441
110	22.424065
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112	22.443943
113	22.454200
114	22.464672
115	22.475360
116	22.486267
117	22.497394
118	22.508742
119	22.520313
120	22.532109
121	22.544130
122	22.556378
123	22.568854
124	22.581558
125	22.594493
126	22.607659
127	22.621056
128	22.634685
129	22.648546
130	22.662641
131	22.676968
132	22.691530

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0.000637743	0.005545317
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169	23.382416
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0.00183469	0.01413115
0.001840973	0.013248564
0.001847256	0.005748662
0.00185354	0

Please do not change any of the values in this sheet

Patm	Atmospheric air pressure - (As recorded from engine data)	975 [mBar]
Patm		97500 [Pa]
Tatm		5 [C]
Tatm		278 [K]
Relative Humidity		95 [%]

$$\rho_{\text{humid air}}^{[1]} = \frac{p_d}{R_d T} + \frac{p_v}{R_v T} = \frac{p_d M_d + p_v M_v}{RT}$$

where:

$\rho_{\text{humid air}}$	=	Density of the humid air (kg/m <sup>3</sup> )
$p_d$	=	Partial pressure of dry air (Pa)
$R_d$	=	Specific gas constant for dry air, 287.058 J/(kg·K)
$T$	=	Temperature (K)
$p_v$	=	Pressure of water vapor (Pa)
$R_v$	=	Specific gas constant for water vapor, 461.495 J/(kg·K)
$M_d$	=	Molar mass of dry air, 0.028964 (kg/mol)
$M_v$	=	Molar mass of water vapor, 0.018016 (kg/mol)
$R$	=	<a href="#">Universal gas constant, 8.314 J/(K·mol)</a>

$$\rho_{\text{humid air}} = 1.217898 \text{ Kg/m}^3$$

$$0.318090154$$

The vapor pressure of water may be calculated from the [saturation vapor pressure](#) and [relative humidity](#). It is found by:

$$p_v = \phi p_{\text{sat}}$$

$$p_u = 828.6578 \text{ [Pa]}$$

Where:

$p_v$	=	Vapor pressure of water
$\phi$	=	Relative humidity
$p_{\text{sat}}$	=	Saturation vapor pressure

The [saturation vapor pressure of water](#) at any given temperature is the vapor pressure when relative humidity is 100%. One formula <sup>[1]</sup> used to find the saturation vapor pressure is:

$$p_{\text{sat}} = 6.1078 \times 10^{\frac{7.5T}{T+237.3}}$$

$$p_{\text{sat}} = 8.722714 \text{ hPa}$$

$$p_{\text{sat}} = 872.2714 \text{ [Pa]}$$

where T is in degrees C. Note:

$$\rho = \frac{p}{R_{\text{specific}} T} \quad 1.22177 \text{ [kg/m}^3]$$

$$R = 287.058 \text{ J/Kg K}$$

$$T = \text{Temperature in degrees Kelvin}$$

$$P = \text{Absolute Pressure in Pa}$$