



### 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	0.320	[Kg/s]
Oxygen Mass Flow rate	0.131	[Kg/s]

Please do not change anything in this box

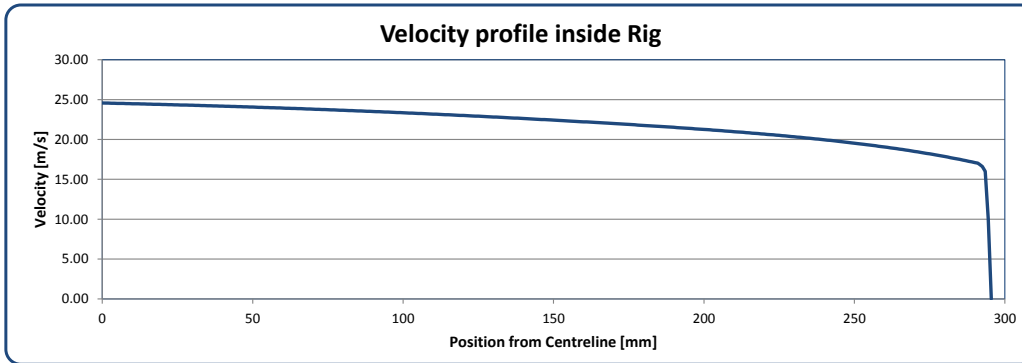
Test Date and Time = 11.06.2015 15:23:33.9

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	0.515	[Kg/m <sup>3</sup> ]
<b>Pitot Traverse Results</b>		
Rig Gas flow rate - Integrated	2.916221	[Kg/s]
Total Rig Mass flow	3.367221	[Kg/s]
<b>Rig Gas Temperature as read from TC 11</b>		
Gas Temperature	345	[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**

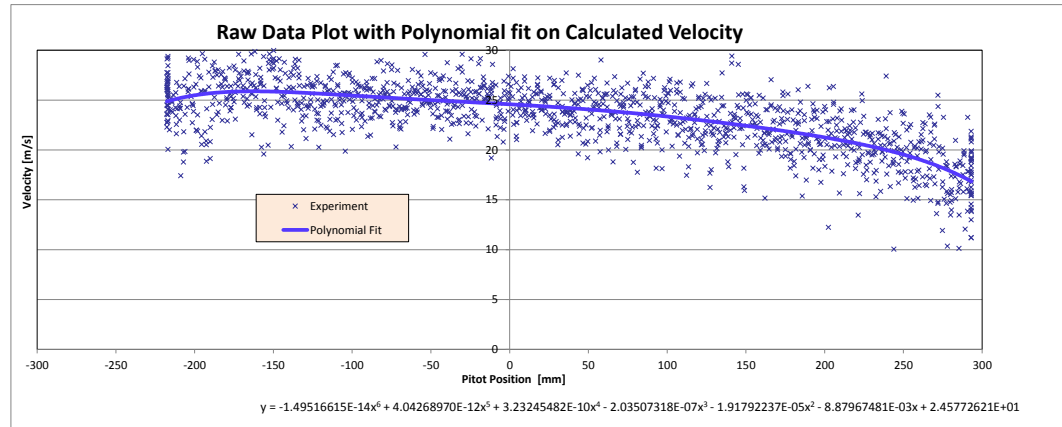
Sampling Rate	1000	[Hz]
No of samples recorded	100	Samples
Averaged samples sampling	10	[Hz]
Pitot Traverse speed	7	[mm/s]
Distance Travelled every 0.1	0.7	[mm]

Averaged Pitot dp 1.430521869 Average Vel 23.3303795 [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 %
11.06.2015 15:23:33.9	-216.94	323.4	1.8518	18.13
11.06.2015 15:23:34.0	-216.95	323.3	1.0365	18
11.06.2015 15:23:34.1	-217	323.4	1.5421	17.96
11.06.2015 15:23:34.2	-216.96	323.5	1.4252	18.09
11.06.2015 15:23:34.3	-216.91	323.4	2.0849	18.13
11.06.2015 15:23:34.4	-216.97	323.4	2.1972	18.07
11.06.2015 15:23:34.5	-216.94	323.5	2.2242	17.99
11.06.2015 15:23:34.6	-216.92	323.6	1.696	18.07
11.06.2015 15:23:34.7	-216.94	323.4	1.5365	18.09
11.06.2015 15:23:34.8	-217.01	323.4	1.3497	18.03
11.06.2015 15:23:34.9	-216.95	323.5	1.7229	17.97
11.06.2015 15:23:35.0	-216.94	323.5	1.9837	18.13
11.06.2015 15:23:35.1	-216.97	323.4	1.746	18.08
11.06.2015 15:23:35.2	-216.93	323.4	1.9399	18.05
11.06.2015 15:23:35.3	-216.92	323.5	1.8694	18.1
11.06.2015 15:23:35.4	-216.95	323.5	1.4904	18.15
11.06.2015 15:23:35.5	-215.99	323.4	1.2484	18.06
11.06.2015 15:23:35.6	-214.31	323.4	1.58	17.93
11.06.2015 15:23:35.7	-214.5	323.4	1.5961	18.06
11.06.2015 15:23:35.8	-214.06	323.4	1.4562	18.15
11.06.2015 15:23:35.9	-211.37	323.4	1.8462	17.99
11.06.2015 15:23:36.0	-211.59	323.5	1.3112	17.87
11.06.2015 15:23:36.1	-211.55	323.5	1.204	18.07
11.06.2015 15:23:36.2	-211.01	323.5	1.5004	18.13
11.06.2015 15:23:36.3	-208.86	323.5	0.7807	17.96
11.06.2015 15:23:36.4	-209.07	323.6	1.5041	17.89
11.06.2015 15:23:36.5	-209.02	323.7	1.5787	18.05
11.06.2015 15:23:36.6	-207.11	323.6	0.9093	18.12
11.06.2015 15:23:36.7	-206.06	323.6	1.4308	17.97
11.06.2015 15:23:36.8	-206.1	323.7	1.0138	17.91
11.06.2015 15:23:36.9	-206.12	323.7	1.8987	18.04
11.06.2015 15:23:37.0	-204.16	323.6	1.7184	18.07
11.06.2015 15:23:37.1	-203.6	323.5	1.9636	18.02
11.06.2015 15:23:37.2	-203.6	323.7	2.1626	17.95
11.06.2015 15:23:37.3	-202.25	323.7	1.6548	18.07
11.06.2015 15:23:37.4	-200.47	323.6	1.7818	18.08
11.06.2015 15:23:37.5	-200.69	323.6	1.4661	18.01
11.06.2015 15:23:37.6	-200.64	323.6	2.1748	18.01
11.06.2015 15:23:37.7	-198.3	323.7	2.146	18.05
11.06.2015 15:23:37.8	-198.15	323.6	2.065	18.04
11.06.2015 15:23:37.9	-198.15	323.6	1.4238	17.95
11.06.2015 15:23:38.0	-198.1	323.7	1.2336	17.98
11.06.2015 15:23:38.1	-195.57	323.7	1.0879	18.12
11.06.2015 15:23:38.2	-195.61	323.7	1.1804	18.01
11.06.2015 15:23:38.3	-195.55	323.7	1.7255	17.92
11.06.2015 15:23:38.4	-193.46	323.7	1.2266	18.05
11.06.2015 15:23:38.5	-192.63	323.7	1.0847	18.15
11.06.2015 15:23:38.6	-192.68	323.7	1.1255	17.99
11.06.2015 15:23:38.7	-192.44	323.7	0.9168	17.9
11.06.2015 15:23:38.8	-189.99	323.8	1.2762	18.09
11.06.2015 15:23:38.9	-190.14	323.7	0.9431	18.15
11.06.2015 15:23:39.0	-190.12	323.7	1.1175	18
11.06.2015 15:23:39.1	-188.85	323.8	1.3686	17.93
11.06.2015 15:23:39.2	-187.42	323.9	1.6449	18.09
11.06.2015 15:23:39.3	-187.54	323.8	2.1381	18.11
11.06.2015 15:23:39.4	-187.07	323.8	2.005	18
11.06.2015 15:23:39.5	-184.85	324	1.7954	17.95
11.06.2015 15:23:39.6	-185.01	324	1.458	18.05
11.06.2015 15:23:39.7	-185.03	323.9	2.0255	18.08

Calculated Velocity [m/s]
26.8168908
20.0630075
24.4718979
23.5260649
28.4546991
29.2109834
29.3899131
25.6639977
24.4274237
22.8944391
25.8667234
27.755207
26.0395517
27.4473901
26.9440268
24.0581819
22.0185271
24.770794
24.8966797
23.7805501
26.7763118
22.5655464
21.6234321
24.1387575
17.412193
24.1685023
24.7606013
18.7916528
23.5722397
19.8420951
27.1543592
25.832921
27.6145452
28.9800735
25.3503605
26.3051547
23.8612494
29.061702
28.8686345
28.318576
23.514507
21.8876212
20.5544505
21.4104593
25.8862335
21.8254327
20.5241984
20.9066348
18.8689914
22.262337
19.1377226
20.8322006
23.0541785
25.2744162
28.8154489
27.9041355
26.405354
23.7952431
28.0464248



11.06.2015 15:23:39.8	-184.28	323.9	1.5704	18.01	24.6954263
11.06.2015 15:23:39.9	-182.2	324.1	1.9999	17.99	27.8686238
11.06.2015 15:23:40.0	-182.46	324.1	1.3593	18.06	22.9757153
11.06.2015 15:23:40.1	-182.32	324	1.7801	18.12	26.292603
11.06.2015 15:23:40.2	-179.39	324	1.7913	17.99	26.3751869
11.06.2015 15:23:40.3	-179.6	324	1.6375	18.04	25.2175005
11.06.2015 15:23:40.4	-179.59	324	1.6121	18.12	25.0211561
11.06.2015 15:23:40.5	-179.21	323.9	1.3521	18.08	22.9147852
11.06.2015 15:23:40.6	-176.85	323.9	1.517	17.96	24.2719223
11.06.2015 15:23:40.7	-177.02	323.9	1.5124	18.07	24.2350945
11.06.2015 15:23:40.8	-177	323.8	1.6533	18.14	25.3388684
11.06.2015 15:23:40.9	-175.39	323.8	1.6301	18.02	25.160456
11.06.2015 15:23:41.0	-174.02	323.8	1.8296	17.93	26.6556612
11.06.2015 15:23:41.1	-174.11	323.8	2.0216	18.06	28.0194107
11.06.2015 15:23:41.2	-174.14	323.8	1.7097	18.16	25.7674439
11.06.2015 15:23:41.3	-172.45	323.7	1.7933	18.01	26.3899069
11.06.2015 15:23:41.4	-171.5	323.7	1.8731	17.9	26.9706781
11.06.2015 15:23:41.5	-171.53	323.7	1.9784	18.08	27.7184177
11.06.2015 15:23:41.6	-170.55	323.6	1.9297	18.19	27.3751358
11.06.2015 15:23:41.7	-168.45	323.6	1.579	18.03	24.7629539
11.06.2015 15:23:41.8	-168.71	323.7	2.0077	17.99	27.9229175
11.06.2015 15:23:41.9	-168.67	323.7	2.1559	18.09	28.9351468
11.06.2015 15:23:42.0	-166.56	323.7	1.5325	18.15	24.3956068
11.06.2015 15:23:42.1	-166.1	323.6	2.0029	18.03	27.8895185
11.06.2015 15:23:42.2	-166.16	323.8	1.8792	17.98	27.0145592
11.06.2015 15:23:42.3	-165.63	323.8	1.981	18.05	27.7366254
11.06.2015 15:23:42.4	-163.35	323.7	1.8375	18.05	26.7131472
11.06.2015 15:23:42.5	-163.63	323.7	1.1925	18.06	21.5199163
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11.06.2015 15:23:42.7	-161.75	323.8	2.2974	18.1	29.8696196
11.06.2015 15:23:42.8	-160.6	323.7	1.5125	18.06	24.2358957
11.06.2015 15:23:42.9	-160.69	323.6	1.487	18.01	24.0307247
11.06.2015 15:23:43.0	-160.58	323.7	1.7392	18.02	25.9887952
11.06.2015 15:23:43.1	-157.97	323.7	1.9164	18.09	27.2806343
11.06.2015 15:23:43.2	-158.16	323.6	1.8171	18.02	26.5644481
11.06.2015 15:23:43.3	-158.12	323.6	1.8676	17.95	26.9310518
11.06.2015 15:23:43.4	-157.88	323.7	1.8337	18.06	26.6855111
11.06.2015 15:23:43.5	-155.44	323.7	1.4362	18.17	23.61668
11.06.2015 15:23:43.6	-155.6	323.7	1.6012	18.02	24.936424
11.06.2015 15:23:43.7	-155.56	323.7	1.5149	17.91	24.2551166
11.06.2015 15:23:43.8	-155.09	323.7	1.4027	18.06	23.33962
11.06.2015 15:23:43.9	-152.43	323.7	2.2607	18.17	29.6300818
11.06.2015 15:23:44.0	-152.67	323.6	2.023	18.01	28.0291111
11.06.2015 15:23:44.1	-152.72	323.6	2.1723	17.93	29.0449936
11.06.2015 15:23:44.2	-149.81	323.7	2.1883	18.07	29.1517623
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11.06.2015 15:23:44.4	-149.77	323.5	2.3124	17.98	29.9669721
11.06.2015 15:23:44.5	-149.75	323.7	2.0494	17.97	28.2114072
11.06.2015 15:23:44.6	-147.04	323.7	1.8984	18.08	27.1522139
11.06.2015 15:23:44.7	-147.22	323.6	1.3614	18.16	22.9934562
11.06.2015 15:23:44.8	-147.22	323.6	1.5815	18.04	24.7825495
11.06.2015 15:23:44.9	-146.23	323.8	2.1862	18.07	29.1377712
11.06.2015 15:23:45.0	-144.49	323.8	1.223	18.11	21.793381
11.06.2015 15:23:45.1	-144.68	323.7	1.5653	18.09	24.6552935
11.06.2015 15:23:45.2	-144.67	323.7	1.6594	18.02	25.3855704
11.06.2015 15:23:45.3	-143.26	323.8	1.2949	18.01	22.4248475
11.06.2015 15:23:45.4	-141.57	323.8	1.6009	18.07	24.9340879
11.06.2015 15:23:45.5	-141.76	323.7	1.7423	18.07	26.0119465
11.06.2015 15:23:45.6	-141.19	323.7	1.5704	17.98	24.6954263
11.06.2015 15:23:45.7	-138.62	323.7	1.0661	18.04	20.3474671
11.06.2015 15:23:45.8	-138.86	323.7	1.9861	18.12	27.7723058
11.06.2015 15:23:45.9	-138.88	323.7	1.7576	18.01	26.1259087
11.06.2015 15:23:46.0	-138.16	323.7	2.5924	17.94	31.7294387
11.06.2015 15:23:46.1	-136.05	323.8	2.1796	18.06	29.0937554
11.06.2015 15:23:46.2	-136.31	323.8	2.1114	18.18	28.634964
11.06.2015 15:23:46.3	-136.32	323.8	1.6107	18.02	25.0102891
11.06.2015 15:23:46.4	-134.39	323.8	1.5524	17.97	24.5534883
11.06.2015 15:23:46.5	-133.72	323.9	2.1657	18.11	29.0008369
11.06.2015 15:23:46.6	-133.77	323.9	1.9089	18.2	27.2271994
11.06.2015 15:23:46.7	-133.75	323.8	1.9631	18.03	27.6110292
11.06.2015 15:23:46.8	-131.32	323.9	1.4115	17.99	23.4127175

11.06.2015 15:23:46.9	-130.82	324	1.2489	18.2	22.022936
11.06.2015 15:23:47.0	-130.82	323.8	1.6361	18.17	25.2067182
11.06.2015 15:23:47.1	-129.25	323.8	1.1521	18.12	21.1522452
11.06.2015 15:23:47.2	-127.85	323.9	1.5366	17.99	24.4282186
11.06.2015 15:23:47.3	-127.92	323.9	1.5044	18.12	24.1709125
11.06.2015 15:23:47.4	-127.92	323.8	1.9029	18.07	27.1843759
11.06.2015 15:23:47.5	-126.34	323.7	2.6528	18.04	32.0969405
11.06.2015 15:23:47.6	-125.32	323.8	1.6913	17.97	25.6284126
11.06.2015 15:23:47.7	-125.32	323.8	1.7889	18.07	26.3575121
11.06.2015 15:23:47.8	-125.29	323.7	1.7843	18.05	26.3236023
11.06.2015 15:23:47.9	-122.34	323.6	1.3611	18.03	22.9909226
11.06.2015 15:23:48.0	-122.49	323.7	1.8636	18.03	26.9021961
11.06.2015 15:23:48.1	-122.45	323.7	1.444	18.09	23.6807242
11.06.2015 15:23:48.2	-122.25	323.6	1.9277	18.08	27.3609459
11.06.2015 15:23:48.3	-119.78	323.6	1.3009	17.96	22.4767409
11.06.2015 15:23:48.4	-119.95	323.7	1.5291	18.08	24.3685298
11.06.2015 15:23:48.5	-119.94	323.8	1.8399	18.14	26.7305868
11.06.2015 15:23:48.6	-117.32	323.7	1.7021	18	25.7101091
11.06.2015 15:23:48.7	-117.04	323.8	1.8051	17.91	26.4765879
11.06.2015 15:23:48.8	-117.03	323.8	1.7874	18.09	26.3464594
11.06.2015 15:23:48.9	-116.42	323.7	1.2813	18.21	22.3067755
11.06.2015 15:23:49.0	-114.27	323.7	1.2341	17.99	21.8920565
11.06.2015 15:23:49.1	-114.55	323.8	1.7398	17.89	25.9932777
11.06.2015 15:23:49.2	-114.42	323.8	1.9169	18.1	27.2841929
11.06.2015 15:23:49.3	-111.78	323.7	1.1942	18.19	21.5352499
11.06.2015 15:23:49.4	-111.99	323.7	1.9927	18.06	27.8184126
11.06.2015 15:23:49.5	-111.95	323.8	1.7315	17.99	25.931201
11.06.2015 15:23:49.6	-110.94	323.8	1.5601	18.1	24.6143064
11.06.2015 15:23:49.7	-109.22	323.7	1.8152	18.11	26.5505563
11.06.2015 15:23:49.8	-109.43	323.6	2.0909	18.03	28.4956137
11.06.2015 15:23:49.9	-109.06	323.7	1.7933	17.95	26.3899069
11.06.2015 15:23:50.0	-106.64	323.8	1.3214	18.09	22.6531465
11.06.2015 15:23:50.1	-106.85	323.6	1.4487	18.1	23.7192315
11.06.2015 15:23:50.2	-106.86	323.6	1.5488	17.99	24.5250021
11.06.2015 15:23:50.3	-106.35	323.7	1.2176	18.01	21.7452149
11.06.2015 15:23:50.4	-104.09	323.7	1.9816	18.07	27.7408255
11.06.2015 15:23:50.5	-104.32	323.6	1.0177	18.05	19.8802239
11.06.2015 15:23:50.6	-104.34	323.6	1.6555	17.96	25.3557217
11.06.2015 15:23:50.7	-102.6	323.6	1.4537	18.03	23.7601281
11.06.2015 15:23:50.8	-101.65	323.6	1.6166	18.14	25.0560537
11.06.2015 15:23:50.9	-101.76	323.6	1.9749	18.02	27.6938884
11.06.2015 15:23:51.0	-100.77	323.6	1.6969	17.95	25.6708062
11.06.2015 15:23:51.1	-98.63	323.6	1.6558	18.06	25.358019
11.06.2015 15:23:51.2	-98.86	323.6	1.5126	18.14	24.2366969
11.06.2015 15:23:51.3	-98.9	323.7	1.4143	17.99	23.4359279
11.06.2015 15:23:51.4	-97.72	323.7	1.7435	17.9	26.0209027
11.06.2015 15:23:51.5	-96.15	323.8	1.6926	18.09	25.6382602
11.06.2015 15:23:51.6	-96.3	323.8	1.8222	18.12	26.6017008
11.06.2015 15:23:51.7	-96.29	323.7	1.6829	18.01	25.5646905
11.06.2015 15:23:51.8	-94	323.8	1.2848	17.92	22.3372213
11.06.2015 15:23:51.9	-93.77	324	1.4431	18.14	23.6733433
11.06.2015 15:23:52.0	-93.72	323.9	1.3923	18.09	23.2529359
11.06.2015 15:23:52.1	-91.98	323.9	1.6577	18.03	25.3725637
11.06.2015 15:23:52.2	-90.81	324	1.804	17.96	26.4685195
11.06.2015 15:23:52.3	-90.8	324.1	1.855	18.07	26.8400512
11.06.2015 15:23:52.4	-90.77	323.9	1.7413	18.09	26.0044806
11.06.2015 15:23:52.5	-88.2	323.8	1.7603	18.06	26.1459681
11.06.2015 15:23:52.6	-88.35	323.9	1.3846	18.05	23.1885476
11.06.2015 15:23:52.7	-88.27	324	1.1893	18.11	21.4910232
11.06.2015 15:23:52.8	-87.29	323.9	1.3873	18.12	23.2111456
11.06.2015 15:23:52.9	-85.61	323.8	1.6243	18.02	25.1156548
11.06.2015 15:23:53.0	-85.76	323.9	1.9008	18.08	27.1693717
11.06.2015 15:23:53.1	-85.72	323.9	1.4705	18.07	23.8970283
11.06.2015 15:23:53.2	-83.21	323.8	1.583	18.08	24.7942994
11.06.2015 15:23:53.3	-82.82	323.8	1.6796	18.01	25.5396132
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11.06.2015 15:23:53.8	-80.29	323.9	1.7385	18.11	25.9835646
11.06.2015 15:23:53.9	-78.56	323.9	1.4809	18.15	23.9813844

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11.06.2015 15:23:54.2	-77.58	323.9	2.1131	18.12	28.6464895
11.06.2015 15:23:54.3	-74.7	323.9	2.0958	18.19	28.5289837
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11.06.2015 15:23:54.5	-74.86	323.9	1.5993	18	24.9216247
11.06.2015 15:23:54.6	-73.7	324	1.7201	18.09	25.845696
11.06.2015 15:23:54.7	-72.14	323.9	1.0611	18.16	20.2996963
11.06.2015 15:23:54.8	-72.31	323.8	1.4925	18.07	24.0751251
11.06.2015 15:23:54.9	-72.34	324	1.4544	17.95	23.7658481
11.06.2015 15:23:55.0	-69.99	324	1.5301	18.13	24.3764967
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11.06.2015 15:23:55.3	-69.04	324	1.2579	18.04	22.1021459
11.06.2015 15:23:55.4	-66.56	324	1.5195	18.14	24.291914
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11.06.2015 15:23:55.6	-66.89	323.9	1.4926	18.05	24.0759317
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11.06.2015 15:23:56.5	-58.73	324.2	1.456	18.09	23.778917
11.06.2015 15:23:56.6	-58.88	324.2	1.6992	18.15	25.6881976
11.06.2015 15:23:56.7	-58.86	324.1	1.4868	17.99	24.0291086
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11.06.2015 15:23:57.5	-51.57	324.2	1.6735	18	25.4931935
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11.06.2015 15:23:58.3	-45.8	324.3	1.5004	17.98	24.1387575
11.06.2015 15:23:58.4	-45.79	324.4	1.6669	18.01	25.4428734
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11.06.2015 15:23:59.0	-40.72	324.2	1.7237	18.03	25.8727281
11.06.2015 15:23:59.1	-40.67	324.3	1.6452	17.92	25.2767209
11.06.2015 15:23:59.2	-39.58	324.3	2.1276	18.13	28.7446069
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11.06.2015 15:23:59.6	-36.8	324.4	1.3121	18.08	22.5732895
11.06.2015 15:23:59.7	-35.47	324.3	1.3232	18.14	22.6685703
11.06.2015 15:23:59.8	-35.58	324.3	1.5178	18.08	24.2783215
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11.06.2015 15:24:00.3	-30.92	324.3	2.0668	18.01	28.3309156
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11.06.2015 15:24:00.8	-27.6	324.3	1.3289	18.14	22.7173429
11.06.2015 15:24:00.9	-27.57	324.2	1.663	18.17	25.413092
11.06.2015 15:24:01.0	-26.18	324.2	1.402	18.06	23.3337956

11.06.2015 15:24:01.1	-24.51	324.2	2.1859	18.12	29.1357719
11.06.2015 15:24:01.2	-24.71	324.2	1.3259	18.23	22.6916862
11.06.2015 15:24:01.3	-24.68	324.1	1.7146	18.1	25.8043422
11.06.2015 15:24:01.4	-22.27	324.1	1.4605	17.94	23.8156349
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11.06.2015 15:24:01.7	-21.43	324	1.2915	18.01	22.3953879
11.06.2015 15:24:01.8	-19.35	324	1.6922	17.97	25.6352306
11.06.2015 15:24:01.9	-19.63	324	2.1131	18.12	28.6464895
11.06.2015 15:24:02.0	-19.57	323.9	1.6901	18.17	25.6193192
11.06.2015 15:24:02.1	-17.42	323.9	1.3609	17.96	22.9892334
11.06.2015 15:24:02.2	-16.68	323.9	1.7996	17.93	26.4362211
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11.06.2015 15:24:02.4	-16.34	323.9	1.8636	18.09	26.9021961
11.06.2015 15:24:02.5	-13.98	323.8	1.6442	18.04	25.2690378
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11.06.2015 15:24:03.7	-6.21	323.7	1.5766	18	24.7441275
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11.06.2015 15:24:04.4	-0.74	323.7	1.7126	18.11	25.7892881
11.06.2015 15:24:04.5	-0.71	323.7	1.9315	17.99	27.3879004
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11.06.2015 15:24:05.4	6.97	323.7	1.4148	18.07	23.4400702
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11.06.2015 15:24:05.8	9.51	323.6	1.9237	18.09	27.332544
11.06.2015 15:24:05.9	9.49	323.6	1.6655	18.03	25.4321866
11.06.2015 15:24:06.0	10.86	323.6	1.3586	17.96	22.9697987
11.06.2015 15:24:06.1	12.15	323.6	1.5436	18.05	24.4837969
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11.06.2015 15:24:06.4	14.62	323.6	1.4249	17.96	23.5235887
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11.06.2015 15:24:07.4	20.52	323.5	1.4862	18.15	24.0242596
11.06.2015 15:24:07.5	22.79	323.5	1.5825	17.99	24.7903834
11.06.2015 15:24:07.6	22.51	323.7	1.6002	17.99	24.928636
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11.06.2015 15:24:08.0	25.47	323.8	1.2295	18.01	21.851218
11.06.2015 15:24:08.1	26.34	323.9	1.3757	18.08	23.1139012

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11.06.2015 15:24:08.4	28.03	324	1.8126	18.01	26.5315346
11.06.2015 15:24:08.5	29.03	323.9	1.3066	18.14	22.525929
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11.06.2015 15:24:08.7	30.56	323.9	1.0854	17.98	20.5308198
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11.06.2015 15:24:09.3	36.13	324	1.3158	18.17	22.6050944
11.06.2015 15:24:09.4	36.02	323.9	1.4485	18.04	23.7175941
11.06.2015 15:24:09.5	36	324	1.4575	17.92	23.7911626
11.06.2015 15:24:09.6	38.68	324	1.4745	18.09	23.9295081
11.06.2015 15:24:09.7	38.6	323.9	1.491	18.18	24.063024
11.06.2015 15:24:09.8	38.57	323.9	1.419	18.05	23.4748368
11.06.2015 15:24:09.9	39.63	324	1.4483	17.98	23.7159567
11.06.2015 15:24:10.0	41.71	324	1.386	18.13	23.2002678
11.06.2015 15:24:10.1	41.45	323.9	1.3386	18.2	22.8001022
11.06.2015 15:24:10.2	41.44	323.9	1.6962	18.05	25.6655108
11.06.2015 15:24:10.3	43.61	324	0.9894	18.06	19.6018624
11.06.2015 15:24:10.4	44.04	324	1.3146	18.11	22.5947842
11.06.2015 15:24:10.5	44.07	323.9	1.2026	18.14	21.6108567
11.06.2015 15:24:10.6	44.47	323.9	1.2897	18.05	22.3797759
11.06.2015 15:24:10.7	46.74	324	1.7365	18.03	25.9686144
11.06.2015 15:24:10.8	46.52	324	1.603	18.14	24.9504363
11.06.2015 15:24:10.9	46.58	324	1.1024	18.09	20.6909764
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11.06.2015 15:24:11.6	52.02	324	1.8418	18.26	26.7443851
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11.06.2015 15:24:12.5	60.22	324	2.3642	18.03	30.3007578
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11.06.2015 15:24:12.8	61.84	323.9	1.2266	18.16	21.8254327
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11.06.2015 15:24:13.5	66.7	323.8	1.9261	18.12	27.3495887
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11.06.2015 15:24:14.2	71.32	323.6	1.7723	18.09	26.2349356
11.06.2015 15:24:14.3	73.73	323.6	1.0361	18.17	20.0591359
11.06.2015 15:24:14.4	73.46	323.5	1.6386	18.03	25.2259691
11.06.2015 15:24:14.5	73.48	323.5	1.4469	17.93	23.7044914
11.06.2015 15:24:14.6	75.05	323.5	1.1414	18.12	21.0537915
11.06.2015 15:24:14.7	75.71	323.5	1.3359	18.16	22.7770963
11.06.2015 15:24:14.8	75.64	323.4	1.6262	17.99	25.1303398
11.06.2015 15:24:14.9	76.9	323.5	1.5379	17.95	24.4385498
11.06.2015 15:24:15.0	78.77	323.6	1.6507	18.13	25.3189365
11.06.2015 15:24:15.1	78.57	323.5	1.5796	18.15	24.7676582
11.06.2015 15:24:15.2	78.56	323.5	0.9068	18.02	18.7658024

11.06.2015 15:24:15.3	80.86	323.6	1.5805	17.97	24.7747131
11.06.2015 15:24:15.4	81.09	323.6	1.3545	18.1	22.9351132
11.06.2015 15:24:15.5	81.09	323.5	0.8128	18.13	17.7665552
11.06.2015 15:24:15.6	82.63	323.4	1.429	18.06	23.5574077
11.06.2015 15:24:15.7	83.74	323.5	1.0786	18.01	20.4664063
11.06.2015 15:24:15.8	83.63	323.6	1.1734	18.14	21.3468808
11.06.2015 15:24:15.9	83.7	323.5	1.0533	18.07	20.2249485
11.06.2015 15:24:16.0	86.36	323.5	1.4572	18	23.788714
11.06.2015 15:24:16.1	86.17	323.5	1.6533	18.04	25.3388684
11.06.2015 15:24:16.2	86.21	323.6	1.788	18.11	26.350881
11.06.2015 15:24:16.3	88.14	323.5	1.7899	18.04	26.3648781
11.06.2015 15:24:16.4	88.78	323.5	1.1295	17.95	20.9437527
11.06.2015 15:24:16.5	88.75	323.5	1.4151	18.05	23.4425553
11.06.2015 15:24:16.6	89.09	323.5	1.4029	18.15	23.3412839
11.06.2015 15:24:16.7	91.44	323.5	1.2043	18	21.6261259
11.06.2015 15:24:16.8	91.3	323.5	1.3641	17.92	23.0162458
11.06.2015 15:24:16.9	91.3	323.6	1.9016	18.08	27.1750885
11.06.2015 15:24:17.0	92.69	323.5	1.2666	18.16	22.1784466
11.06.2015 15:24:17.1	93.93	323.5	1.2983	17.97	22.4542685
11.06.2015 15:24:17.2	93.82	323.6	1.2936	17.94	22.4135881
11.06.2015 15:24:17.3	93.79	323.7	1.1026	18.11	20.6928532
11.06.2015 15:24:17.4	96.81	323.6	0.8462	18.16	18.1279166
11.06.2015 15:24:17.5	96.75	323.6	1.0309	18.11	20.008736
11.06.2015 15:24:17.6	96.75	323.7	1.4404	18.03	23.6511869
11.06.2015 15:24:17.7	97.64	323.8	1.4821	18.14	23.9910987
11.06.2015 15:24:17.8	99.5	323.7	1.2241	18.11	21.8031796
11.06.2015 15:24:17.9	99.24	323.6	1.6608	18.07	25.3962768
11.06.2015 15:24:18.0	99.28	323.8	1.5951	17.97	24.8888793
11.06.2015 15:24:18.1	101.38	323.8	1.8531	18.08	26.8263021
11.06.2015 15:24:18.2	101.86	323.7	1.8906	18.09	27.096376
11.06.2015 15:24:18.3	101.82	323.7	1.3374	18.1	22.7898802
11.06.2015 15:24:18.4	102.36	323.8	1.3659	18.06	23.0314264
11.06.2015 15:24:18.5	104.94	323.8	1.3311	18.13	22.7361395
11.06.2015 15:24:18.6	104.67	323.7	1.4679	18.19	23.8758927
11.06.2015 15:24:18.7	104.73	323.7	1.5477	18.02	24.5162914
11.06.2015 15:24:18.8	106.07	323.8	1.7487	18.13	26.0596776
11.06.2015 15:24:18.9	106.97	323.7	1.1863	18.15	21.4639006
11.06.2015 15:24:19.0	106.92	323.7	1.1943	18.08	21.5361516
11.06.2015 15:24:19.1	107.84	323.7	0.9673	17.98	19.3817049
11.06.2015 15:24:19.2	110.07	323.8	1.3414	18.09	22.8239357
11.06.2015 15:24:19.3	109.75	323.8	1.2416	18.19	21.958478
11.06.2015 15:24:19.4	109.84	323.8	1.634	18.05	25.1905361
11.06.2015 15:24:19.5	111.81	323.9	1.2529	17.93	22.0581755
11.06.2015 15:24:19.6	112.39	323.9	0.7847	18.11	17.4567427
11.06.2015 15:24:19.7	112.36	323.9	1.3861	18.17	23.2011048
11.06.2015 15:24:19.8	113.61	323.9	0.8627	18.03	18.3038009
11.06.2015 15:24:19.9	115.08	324	1.2666	17.95	22.1784466
11.06.2015 15:24:20.0	114.94	324.1	1.2522	18.09	22.0520127
11.06.2015 15:24:20.1	115.38	324	1.7969	18.14	26.4163821
11.06.2015 15:24:20.2	117.65	323.9	1.4348	18.07	23.6051665
11.06.2015 15:24:20.3	117.42	324.1	1.4231	17.96	23.5087259
11.06.2015 15:24:20.4	117.43	324.1	1.3319	18.07	22.7429707
11.06.2015 15:24:20.5	119.13	324	1.253	18.09	22.0590558
11.06.2015 15:24:20.6	120.11	324	1.5142	18.01	24.2495121
11.06.2015 15:24:20.7	120	324.2	1.6325	18.01	25.178971
11.06.2015 15:24:20.8	120.1	324.2	1.6516	18.07	25.3258378
11.06.2015 15:24:20.9	122.71	324.1	1.5813	18.1	24.7809824
11.06.2015 15:24:21.0	122.48	324.2	1.0904	18.04	20.5780541
11.06.2015 15:24:21.1	122.57	324.3	1.1894	18.03	21.4919267
11.06.2015 15:24:21.2	123.64	324.2	1.0229	18.1	19.9309488
11.06.2015 15:24:21.3	125.26	324.2	1.4063	18.02	23.3695512
11.06.2015 15:24:21.4	125.11	324.2	1.31	17.96	22.5552181
11.06.2015 15:24:21.5	125.13	324.3	1.8303	18.07	26.6607599
11.06.2015 15:24:21.6	127.7	324.3	1.2981	18.15	22.4525389
11.06.2015 15:24:21.7	127.98	324.2	0.837	18.01	18.0291027
11.06.2015 15:24:21.8	128.03	324.3	1.228	17.95	21.8378846
11.06.2015 15:24:21.9	128.59	324.3	1.2006	18.09	21.5928791
11.06.2015 15:24:22.0	130.75	324.3	1.0007	18.18	19.7134817
11.06.2015 15:24:22.1	130.5	324.3	1.6344	18	25.1936192
11.06.2015 15:24:22.2	130.57	324.4	1.3405	17.91	22.8162776
11.06.2015 15:24:22.3	132.31	324.5	1.084	18.11	20.5175748



11.06.2015 15:24:22.4	133.15	324.4	1.1323	18.16	20.9696961
11.06.2015 15:24:22.5	133.07	324.4	1.3465	18.02	22.8672828
11.06.2015 15:24:22.6	133.32	324.5	1.219	17.97	21.7577126
11.06.2015 15:24:22.7	136.16	324.6	1.2934	18.09	22.4118554
11.06.2015 15:24:22.8	135.96	324.5	1.5381	18.12	24.4401389
11.06.2015 15:24:22.9	135.99	324.4	1.1679	18.02	21.2967931
11.06.2015 15:24:23.0	137.25	324.6	1.1065	17.97	20.7294172
11.06.2015 15:24:23.1	138.71	324.6	1.172	18.08	21.3341424
11.06.2015 15:24:23.2	138.51	324.5	0.9112	18.09	18.8112753
11.06.2015 15:24:23.3	139.06	324.5	0.8645	18.02	18.3228861
11.06.2015 15:24:23.4	141.3	324.7	1.3404	18.02	22.8154266
11.06.2015 15:24:23.5	141.05	324.7	2.1219	18.09	28.7060766
11.06.2015 15:24:23.6	141.09	324.6	2.2286	18.08	29.4189688
11.06.2015 15:24:23.7	142.82	324.7	1.4307	18.01	23.571416
11.06.2015 15:24:23.8	143.72	324.7	0.9823	18.1	19.5314036
11.06.2015 15:24:23.9	143.63	324.7	1.3805	18.19	23.1541898
11.06.2015 15:24:24.0	144.52	324.7	1.542	18.07	24.4711044
11.06.2015 15:24:24.1	146.37	324.8	1.382	17.99	23.1667656
11.06.2015 15:24:24.2	146.14	324.9	1.3296	18.09	22.7233253
11.06.2015 15:24:24.3	146.16	324.9	1.2615	18.2	22.1337505
11.06.2015 15:24:24.4	148.27	324.9	1.296	18.01	22.4343703
11.06.2015 15:24:24.5	148.76	325	0.8501	18.01	18.1696429
11.06.2015 15:24:24.6	148.75	325.1	0.6839	18.15	16.2970007
11.06.2015 15:24:24.7	149.15	325	0.6544	18.2	15.9416411
11.06.2015 15:24:24.8	151.43	325	1.4392	18.07	23.6413329
11.06.2015 15:24:24.9	151.24	325.1	1.6821	17.99	25.5586134
11.06.2015 15:24:25.0	151.26	325.2	1.1652	18.18	21.2721615
11.06.2015 15:24:25.1	153.05	325.1	1.6359	18.16	25.2051775
11.06.2015 15:24:25.2	154.28	325.1	1.3033	18.12	22.4974648
11.06.2015 15:24:25.3	154.19	325.3	1.3071	18.02	22.5302386
11.06.2015 15:24:25.4	154.24	325.4	1.3672	18.15	23.0423839
11.06.2015 15:24:25.5	156.83	325.2	1.0751	18.12	20.4331731
11.06.2015 15:24:25.6	156.7	325.2	1.4208	18.06	23.4897209
11.06.2015 15:24:25.7	156.67	325.4	1.2974	17.97	22.4464844
11.06.2015 15:24:25.8	157.75	325.4	1.4012	18.09	23.3271374
11.06.2015 15:24:25.9	159.45	325.3	1.1571	18.1	21.1980948
11.06.2015 15:24:26.0	159.24	325.3	1.3382	18.02	22.7966954
11.06.2015 15:24:26.1	159.27	325.4	1.029	18.06	19.9902889
11.06.2015 15:24:26.2	161.84	325.3	1.214	18.1	21.7130447
11.06.2015 15:24:26.3	162.16	325.3	1.0911	18.08	20.5846583
11.06.2015 15:24:26.4	162.15	325.3	0.5929	17.99	15.1740709
11.06.2015 15:24:26.5	162.75	325.4	1.4877	18.09	24.0363802
11.06.2015 15:24:26.6	164.88	325.4	1.2182	18.24	21.7505719
11.06.2015 15:24:26.7	164.64	325.4	1.194	18.11	21.5334466
11.06.2015 15:24:26.8	164.76	325.4	1.0392	18.03	20.0891218
11.06.2015 15:24:26.9	166.46	325.4	1.1115	18.12	20.7762
11.06.2015 15:24:27.0	167.3	325.4	1.2567	18.2	22.091601
11.06.2015 15:24:27.1	167.25	325.3	1.339	18.01	22.8035085
11.06.2015 15:24:27.2	167.48	325.4	1.2467	17.97	22.0035302
11.06.2015 15:24:27.3	170.27	325.4	1.4769	18.11	23.9489749
11.06.2015 15:24:27.4	170.12	325.3	1.0503	18.17	20.1961257
11.06.2015 15:24:27.5	170.17	325.3	1.0313	18.01	20.0126174
11.06.2015 15:24:27.6	171.35	325.4	1.5244	17.95	24.3310501
11.06.2015 15:24:27.7	172.88	325.4	1.1726	18.17	21.3396026
11.06.2015 15:24:27.8	172.7	325.3	1.3805	18.16	23.1541898
11.06.2015 15:24:27.9	172.69	325.3	0.9647	18.04	19.3556394
11.06.2015 15:24:28.0	175.11	325.4	1.0331	18.01	20.0300745
11.06.2015 15:24:28.1	175.22	325.4	0.9672	18.05	19.380703
11.06.2015 15:24:28.2	175.25	325.3	1.1215	18.14	20.8694509
11.06.2015 15:24:28.3	176.01	325.3	1.2031	18.07	21.6153487
11.06.2015 15:24:28.4	178.47	325.4	0.934	18.06	19.0451686
11.06.2015 15:24:28.5	178.15	325.4	0.9965	18.12	19.6720688
11.06.2015 15:24:28.6	178.18	325.3	0.8506	18.08	18.1749855
11.06.2015 15:24:28.7	180.04	325.3	1.3623	18.03	23.0010553
11.06.2015 15:24:28.8	180.78	325.4	0.9155	18.04	18.8556087
11.06.2015 15:24:28.9	180.67	325.4	0.8746	18.15	18.4296089
11.06.2015 15:24:29.0	181.78	325.4	1.2418	18.04	21.9602465
11.06.2015 15:24:29.1	183.45	325.4	1.3435	17.97	22.8417944
11.06.2015 15:24:29.2	183.24	325.4	1.7451	18.04	26.0328396
11.06.2015 15:24:29.3	183.24	325.4	1.4425	18.16	23.6684215
11.06.2015 15:24:29.4	185.51	325.4	1.0077	17.99	19.7823104

11.06.2015 15:24:29.5	185.79	325.4	0.6098	17.89	15.388812
11.06.2015 15:24:29.6	185.77	325.4	1.1557	18.09	21.1852669
11.06.2015 15:24:29.7	187.28	325.3	1.0814	18.14	20.492954
11.06.2015 15:24:29.8	188.41	325.3	0.7429	17.99	16.9854307
11.06.2015 15:24:29.9	188.34	325.3	1.186	17.96	21.4611865
11.06.2015 15:24:30.0	188.38	325.4	1.1557	18.09	21.1852669
11.06.2015 15:24:30.1	191	325.2	1.1934	18.1	21.5280355
11.06.2015 15:24:30.2	190.85	325.2	1.0332	18.01	20.0310439
11.06.2015 15:24:30.3	190.91	325.3	1.0274	17.93	19.9747413
11.06.2015 15:24:30.4	191.84	325.3	1.3697	18.13	23.0634414
11.06.2015 15:24:30.5	193.63	325.1	1.3936	18.13	23.2637891
11.06.2015 15:24:30.6	193.38	325.1	1.4589	18.03	23.8025861
11.06.2015 15:24:30.7	193.44	325.3	0.9895	18.02	19.602853
11.06.2015 15:24:30.8	195.92	325.3	1.1602	18.13	21.2264718
11.06.2015 15:24:30.9	196.36	325.2	1.1137	18.09	20.7967511
11.06.2015 15:24:31.0	196.35	325.1	0.8345	18.01	18.0021574
11.06.2015 15:24:31.1	196.84	325.2	1.0889	18.07	20.5638952
11.06.2015 15:24:31.2	199.06	325.2	0.9779	18.11	19.4876112
11.06.2015 15:24:31.3	198.82	325.1	0.9352	18.06	19.0573992
11.06.2015 15:24:31.4	198.87	325.1	1.4606	17.96	23.8164502
11.06.2015 15:24:31.5	200.56	325.2	1.4867	18.08	24.0283005
11.06.2015 15:24:31.6	201.5	325.1	1.0847	18.18	20.5241984
11.06.2015 15:24:31.7	201.41	325.1	1.3449	18.02	22.8536925
11.06.2015 15:24:31.8	202.42	325.1	0.3862	17.96	12.246656
11.06.2015 15:24:31.9	204.58	325.2	0.823	18.06	17.8776858
11.06.2015 15:24:32.0	204.27	325.2	1.2072	18.17	21.6521485
11.06.2015 15:24:32.1	204.29	325.2	1.0575	17.99	20.2652316
11.06.2015 15:24:32.2	205.29	325.3	1.3741	17.92	23.100456
11.06.2015 15:24:32.3	206.67	325.3	1.1596	18.1	21.2209825
11.06.2015 15:24:32.4	206.47	325.3	1.0755	18.14	20.4369739
11.06.2015 15:24:32.5	207.03	325.2	0.9602	18.02	19.3104429
11.06.2015 15:24:32.6	209.64	325.4	1.4711	17.98	23.9019031
11.06.2015 15:24:32.7	209.35	325.4	1.0675	18.11	20.3608228
11.06.2015 15:24:32.8	209.43	325.3	0.6338	18.18	15.6887196
11.06.2015 15:24:32.9	211.87	325.3	0.9917	18.1	19.6246328
11.06.2015 15:24:33.0	211.93	325.4	0.7994	18.02	17.6194949
11.06.2015 15:24:33.1	211.96	325.5	1.0844	18.1	20.5213599
11.06.2015 15:24:33.2	212.76	325.3	1.162	18.12	21.2429314
11.06.2015 15:24:33.3	214.73	325.4	1.0723	18.07	20.4065476
11.06.2015 15:24:33.4	214.48	325.6	1.1961	18.02	21.5523747
11.06.2015 15:24:33.5	214.68	325.6	0.8839	18.1	18.5273348
11.06.2015 15:24:33.6	217.18	325.6	1.1453	18.07	21.0897297
11.06.2015 15:24:33.7	217	325.6	1.4787	18	23.9635646
11.06.2015 15:24:33.8	217.07	325.7	1.0418	18.07	20.1142369
11.06.2015 15:24:33.9	218.23	325.7	1.3382	18.13	22.7966954
11.06.2015 15:24:34.0	219.75	325.7	0.9024	18.03	18.7202191
11.06.2015 15:24:34.1	219.6	325.7	0.8479	17.95	18.1461168
11.06.2015 15:24:34.2	219.62	325.8	1.2703	18.03	22.2108169
11.06.2015 15:24:34.3	221.93	325.8	0.9397	18.11	19.1031945
11.06.2015 15:24:34.4	222.1	325.8	0.9218	18.03	18.9203748
11.06.2015 15:24:34.5	222.16	325.8	0.6279	17.95	15.6155263
11.06.2015 15:24:34.6	222.77	325.8	1.3342	18.1	22.7625992
11.06.2015 15:24:34.7	224.89	325.8	1.4077	18.17	23.3811807
11.06.2015 15:24:34.8	224.68	325.8	1.1996	18.02	21.5838847
11.06.2015 15:24:34.9	224.71	325.9	0.7947	17.94	17.5676225
11.06.2015 15:24:35.0	226.78	325.9	0.8324	18.12	17.9794921
11.06.2015 15:24:35.1	227.65	325.9	1.2061	18.16	21.6422815
11.06.2015 15:24:35.2	227.56	325.9	1.0046	18.04	19.7518587
11.06.2015 15:24:35.3	227.84	326.1	0.9949	18.02	19.6562695
11.06.2015 15:24:35.4	230.28	326.2	1.2093	18.13	21.6709729
11.06.2015 15:24:35.5	230.09	326.1	1.1365	18.13	21.0085512
11.06.2015 15:24:35.6	230.09	326.1	0.9789	18.08	19.4975727
11.06.2015 15:24:35.7	231.48	326.3	1.098	18	20.6496433
11.06.2015 15:24:35.8	232.82	326.3	0.8292	18.09	17.9448995
11.06.2015 15:24:35.9	232.63	326.2	0.6027	18.1	15.2989625
11.06.2015 15:24:36.0	232.65	326.2	0.7331	18.05	16.8730267
11.06.2015 15:24:36.1	235.56	326.3	1.0787	18.03	20.467355
11.06.2015 15:24:36.2	235.52	326.3	1.2099	18.2	21.6763483
11.06.2015 15:24:36.3	235.56	326.3	0.6467	18.09	15.8475749
11.06.2015 15:24:36.4	236.41	326.3	0.9174	18.03	18.8751648
11.06.2015 15:24:36.5	238.38	326.4	0.9586	18.09	19.2943475

11.06.2015 15:24:36.6	238.07	326.4	1.0784	18.19	20.4645087
11.06.2015 15:24:36.7	238.12	326.4	1.1736	18.12	21.3487
11.06.2015 15:24:36.8	240.14	326.4	1.1492	18.03	21.1256068
11.06.2015 15:24:36.9	240.67	326.4	0.8732	18.22	18.4148526
11.06.2015 15:24:37.0	240.65	326.4	1.0264	18.25	19.965018
11.06.2015 15:24:37.1	241.1	326.3	1.0924	18.1	20.5969175
11.06.2015 15:24:37.2	243.79	326.4	0.9348	18	19.0533232
11.06.2015 15:24:37.3	243.53	326.4	0.9052	18.21	18.7492395
11.06.2015 15:24:37.4	243.58	326.3	0.8871	18.22	18.560842
11.06.2015 15:24:37.5	245.03	326.2	1.1948	18.14	21.5406592
11.06.2015 15:24:37.6	246.21	326.4	1.0197	18.06	19.8997487
11.06.2015 15:24:37.7	246.1	326.4	1.058	18.21	20.2700219
11.06.2015 15:24:37.8	246.78	326.3	0.816	18.22	17.8014944
11.06.2015 15:24:37.9	248.91	326.2	0.9527	18.11	19.2348793
11.06.2015 15:24:38.0	248.67	326.4	1.0334	18.07	20.0329825
11.06.2015 15:24:38.1	248.68	326.4	0.809	18.13	17.7249755
11.06.2015 15:24:38.2	250.55	326.3	1.4349	18.11	23.605989
11.06.2015 15:24:38.3	251.25	326.3	0.7599	18.06	17.1786727
11.06.2015 15:24:38.4	251.2	326.4	0.817	18.1	17.8123989
11.06.2015 15:24:38.5	252.29	326.4	0.9131	18.14	18.8308773
11.06.2015 15:24:38.6	253.92	326.3	0.9613	18.15	19.3215007
11.06.2015 15:24:38.7	253.74	326.4	0.951	18.07	19.2177103
11.06.2015 15:24:38.8	254.21	326.5	0.9974	18.1	19.6809503
11.06.2015 15:24:38.9	256.48	326.5	0.7356	18.17	16.9017722
11.06.2015 15:24:39.0	256.25	326.5	0.761	18.08	17.1911018
11.06.2015 15:24:39.1	256.27	326.5	0.5764	18	14.9614391
11.06.2015 15:24:39.2	257.85	326.5	0.7522	18.08	17.0914161
11.06.2015 15:24:39.3	258.9	326.5	0.8213	18.2	17.8592121
11.06.2015 15:24:39.4	258.8	326.5	1.05	18.03	20.1932412
11.06.2015 15:24:39.5	258.89	326.6	0.9696	17.94	19.4047337
11.06.2015 15:24:39.6	261.52	326.6	1.1185	18.12	20.8415194
11.06.2015 15:24:39.7	261.33	326.5	1.1942	18.17	21.5352499
11.06.2015 15:24:39.8	261.36	326.5	1.0399	18.02	20.0958866
11.06.2015 15:24:39.9	262.39	326.5	1.1344	17.96	20.9891326
11.06.2015 15:24:40.0	264.13	326.6	1.0118	18.14	19.8225134
11.06.2015 15:24:40.1	263.84	326.4	1.3183	18.17	22.6265588
11.06.2015 15:24:40.2	263.91	326.4	0.7045	18.01	16.5406237
11.06.2015 15:24:40.3	266.46	326.5	0.8454	17.96	18.1193455
11.06.2015 15:24:40.4	266.83	326.5	0.7568	18.12	17.1435968
11.06.2015 15:24:40.5	266.82	326.3	1.098	18.14	20.6496433
11.06.2015 15:24:40.6	267.35	326.2	1.3969	18.05	23.2913168
11.06.2015 15:24:40.7	269.61	326.4	1.3014	18.02	22.48106
11.06.2015 15:24:40.8	269.29	326.3	1.0785	18.09	20.4654575
11.06.2015 15:24:40.9	269.37	326.2	0.7715	18.1	17.3092938
11.06.2015 15:24:41.0	271.04	326.2	0.477	18.03	13.6103901
11.06.2015 15:24:41.1	272	326.3	0.5622	18.04	14.7759973
11.06.2015 15:24:41.2	271.92	326.3	1.6723	18.09	25.4840517
11.06.2015 15:24:41.3	272.07	326.2	1.5282	18.04	24.3613573
11.06.2015 15:24:41.4	275	326.2	0.727	18.01	16.8026812
11.06.2015 15:24:41.5	274.81	326.2	0.6823	18.07	16.277926
11.06.2015 15:24:41.6	274.81	326.2	0.3667	18.15	11.9334725
11.06.2015 15:24:41.7	275.93	326.1	0.5839	18.03	15.0584621
11.06.2015 15:24:41.8	277.56	326.1	0.6472	17.98	15.8537001
11.06.2015 15:24:41.9	277.36	326.1	0.911	18.15	18.8092107
11.06.2015 15:24:42.0	277.33	326	0.5521	18.23	14.6426694
11.06.2015 15:24:42.1	279.72	326	0.5608	18.11	14.7575881
11.06.2015 15:24:42.2	279.95	326	0.4676	18.05	13.4756162
11.06.2015 15:24:42.3	279.88	326	0.6196	18.2	15.5119747
11.06.2015 15:24:42.4	280.6	325.9	0.5743	18.24	14.9341597
11.06.2015 15:24:42.5	283.08	325.9	1.1312	18.1	20.9595079
11.06.2015 15:24:42.6	282.78	326	0.8877	18.04	18.5671178
11.06.2015 15:24:42.7	282.81	326.1	0.7722	18.14	17.3171445
11.06.2015 15:24:42.8	284.65	326	0.6401	18.2	15.7665001
11.06.2015 15:24:42.9	285.43	325.9	0.4681	18.12	13.482819
11.06.2015 15:24:43.0	285.35	326.1	0.2644	18.16	10.1330949
11.06.2015 15:24:43.1	285.59	326.2	0.7272	18.18	16.8049923
11.06.2015 15:24:43.2	288.07	326	0.6431	18.18	15.8034038
11.06.2015 15:24:43.3	287.83	326	0.8765	18.13	18.4496165
11.06.2015 15:24:43.4	287.92	326.2	0.7906	18.14	17.5222466
11.06.2015 15:24:43.5	290.51	326.2	0.6677	18.2	16.1028249
11.06.2015 15:24:43.6	290.77	326.1	0.4942	18.11	13.8536035

11.06.2015 15:24:43.7	290.81	326.1	1.3939	18.05	23.266293
11.06.2015 15:24:43.8	290.83	326.2	0.8177	18.08	17.820028
11.06.2015 15:24:43.9	293.04	326.2	0.5193	18.2	14.2010529
11.06.2015 15:24:44.0	293.04	326.1	0.7436	18.06	16.9934311
11.06.2015 15:24:44.1	293.12	326.1	1.0195	18	19.8977971
11.06.2015 15:24:44.2	293.11	326.2	0.9336	18.1	19.04109
11.06.2015 15:24:44.3	293.07	326.2	0.9411	18.19	19.1174195
11.06.2015 15:24:44.4	293.12	326.1	0.7876	18.03	17.4889702
11.06.2015 15:24:44.5	293.13	326.2	0.9187	17.98	18.8885335
11.06.2015 15:24:44.6	293.05	326.3	0.6149	18.13	15.4530294
11.06.2015 15:24:44.7	293.05	326.2	0.3225	18.18	11.1911893
11.06.2015 15:24:44.8	293.07	326.2	0.5463	18.05	14.5655532
11.06.2015 15:24:44.9	293.07	326.3	0.8317	17.95	17.9719306
11.06.2015 15:24:45.0	293.07	326.4	1.1464	18.17	21.0998551
11.06.2015 15:24:45.1	293.1	326.2	0.955	18.15	19.2580837
11.06.2015 15:24:45.2	293.07	326.2	0.8725	18.1	18.40747
11.06.2015 15:24:45.3	293.17	326.4	0.9134	18.03	18.8339705
11.06.2015 15:24:45.4	293.16	326.4	1.0025	18.13	19.7312034
11.06.2015 15:24:45.5	293.14	326.3	1.1155	18.11	20.8135505
11.06.2015 15:24:45.6	293.05	326.3	1.2317	18.09	21.870759
11.06.2015 15:24:45.7	293.05	326.5	1.1701	18.04	21.3168423
11.06.2015 15:24:45.8	293.05	326.5	0.5014	18.11	13.9541552
11.06.2015 15:24:45.9	293.05	326.4	0.7921	18.14	17.5388612
11.06.2015 15:24:46.0	293.1	326.4	1.0188	18.04	19.8909649
11.06.2015 15:24:46.1	293.12	326.5	0.4924	18.12	13.8283513
11.06.2015 15:24:46.2	293.07	326.5	0.4349	18.16	12.9958918
11.06.2015 15:24:46.3	293.09	326.3	0.8108	18.14	17.7446833
11.06.2015 15:24:46.4	293.1	326.4	0.723	17.98	16.7563928
11.06.2015 15:24:46.5	293.09	326.4	0.3244	18.11	11.2241072
11.06.2015 15:24:46.6	293.07	326.4	0.6117	18.17	15.4127674
11.06.2015 15:24:46.7	293	326.4	0.6499	18.02	15.886735
11.06.2015 15:24:46.8	293.02	326.4	0.9417	17.99	19.1235127
11.06.2015 15:24:46.9	293.03	326.5	0.9495	18.14	19.2025484
11.06.2015 15:24:47.0	293.07	326.5	1.1575	18.17	21.2017585
11.06.2015 15:24:47.1	293.11	326.4	0.6319	17.98	15.6651862
11.06.2015 15:24:47.2	293.12	326.5	0.6246	17.97	15.5744376
11.06.2015 15:24:47.3	293.07	326.5	0.6808	18.13	16.260023
11.06.2015 15:24:47.4	291.4	326.5	0.8206	18.21	17.8515997
11.06.2015 15:24:47.5	291.47	326.4	0.7308	17.98	16.8465375
11.06.2015 15:24:47.6	291.48	326.6	0.6427	18.02	15.7984883
11.06.2015 15:24:47.7	289.26	326.7	0.3747	18.13	12.0629417
11.06.2015 15:24:47.8	288.47	326.6	1.0217	18.12	19.9192545
11.06.2015 15:24:47.9	288.57	326.6	0.9773	18.06	19.4816319
11.06.2015 15:24:48.0	288.56	326.9	0.9939	18.03	19.6463885
11.06.2015 15:24:48.1	286.34	326.9	0.7126	18.11	16.63544
11.06.2015 15:24:48.2	285.98	326.8	0.8903	18.08	18.5942887
11.06.2015 15:24:48.3	286.02	326.8	0.9199	18.06	18.9008655
11.06.2015 15:24:48.4	285.51	327	0.6742	18.02	16.1810149
11.06.2015 15:24:48.5	283.23	327	0.5884	18.11	15.116377
11.06.2015 15:24:48.6	283.49	326.8	0.8629	18.1	18.3059224
11.06.2015 15:24:48.7	283.45	326.9	0.8709	18.01	18.3905843
11.06.2015 15:24:48.8	280.46	326.9	0.637	18.06	15.7282752
11.06.2015 15:24:48.9	280.6	326.9	0.6618	18.17	16.0315223
11.06.2015 15:24:49.0	280.49	326.9	0.5029	18.02	13.9750124
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11.06.2015 15:24:49.2	277.89	327.1	0.8688	18.1	18.3683984
11.06.2015 15:24:49.3	278.05	327	0.6295	18.17	15.6354092
11.06.2015 15:24:49.4	277.98	327	0.276	18.05	10.3529931
11.06.2015 15:24:49.5	276.91	327	0.8741	17.93	18.4243402
11.06.2015 15:24:49.6	275.29	327.1	0.9871	18.11	19.5790655
11.06.2015 15:24:49.7	275.45	327	1.3947	18.16	23.2729686
11.06.2015 15:24:49.8	274.94	327	1.048	18.01	20.1740004
11.06.2015 15:24:49.9	272.38	327.2	0.841	17.99	18.0721316
11.06.2015 15:24:50.0	272.59	327.2	1.065	18.13	20.3369672
11.06.2015 15:24:50.1	272.56	327.2	1.009	18.21	19.7950666
11.06.2015 15:24:50.2	271.97	327.1	0.5522	18.02	14.6439954
11.06.2015 15:24:50.3	269.76	327.3	1.1465	17.98	21.1007753
11.06.2015 15:24:50.4	270.01	327.4	0.7102	18.1	16.6074027
11.06.2015 15:24:50.5	269.95	327.2	1.3148	18.08	22.5965029
11.06.2015 15:24:50.6	267.34	327.2	0.5739	18	14.928958
11.06.2015 15:24:50.7	267.5	327.4	0.9324	17.99	19.0288488

11.06.2015 15:24:50.8	267.47	327.5	1.2227	18.1	21.7907079
11.06.2015 15:24:50.9	266.47	327.4	1.4232	18.06	23.5095519
11.06.2015 15:24:51.0	264.74	327.4	0.6944	18.01	16.4216291
11.06.2015 15:24:51.1	264.95	327.5	0.7782	18.02	17.3842915
11.06.2015 15:24:51.2	264.57	327.5	1.0245	18.12	19.9465305
11.06.2015 15:24:51.3	262.16	327.5	0.7709	18.07	17.3025617
11.06.2015 15:24:51.4	262.4	327.5	1.2622	18.03	22.1398906
11.06.2015 15:24:51.5	262.42	327.6	1.332	18.09	22.7438245
11.06.2015 15:24:51.6	260	327.6	0.6954	18.16	16.4334492
11.06.2015 15:24:51.7	259.82	327.6	0.8324	18	17.9794921
11.06.2015 15:24:51.8	259.88	327.6	1.1153	17.93	20.8116845
11.06.2015 15:24:51.9	259.2	327.7	0.592	18.12	15.1625497
11.06.2015 15:24:52.0	256.96	327.7	1.0529	18.19	20.2211079
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11.06.2015 15:24:52.2	257.2	327.8	1.0706	17.89	20.3903651
11.06.2015 15:24:52.3	254.61	327.9	1.3101	18.09	22.556079
11.06.2015 15:24:52.4	254.77	327.8	1.1102	18.15	20.7640466
11.06.2015 15:24:52.5	254.79	327.8	0.8188	18.03	17.8320101
11.06.2015 15:24:52.6	253.66	327.9	1.2779	18.01	22.2771597
11.06.2015 15:24:52.7	252.01	327.9	1.0547	18.09	20.2383851
11.06.2015 15:24:52.8	252.24	327.8	0.5893	18.11	15.1279334
11.06.2015 15:24:52.9	252.19	327.7	1.2461	18.05	21.9982347
11.06.2015 15:24:53.0	249.88	327.9	1.3241	18.01	22.6762782
11.06.2015 15:24:53.1	249.66	327.9	1.0117	18.11	19.8215338
11.06.2015 15:24:53.2	249.67	327.7	1.4438	18.08	23.6790842
11.06.2015 15:24:53.3	249.06	327.7	1.4679	18.02	23.8758927
11.06.2015 15:24:53.4	246.91	327.8	0.7171	18.02	16.6878829
11.06.2015 15:24:53.5	247.17	327.8	1.1703	18.11	21.3186641
11.06.2015 15:24:53.6	247.03	327.7	0.8873	18.04	18.5629342
11.06.2015 15:24:53.7	244.06	327.7	1.1235	17.99	20.8880511
11.06.2015 15:24:53.8	244.29	327.8	1.217	18.05	21.7398565
11.06.2015 15:24:53.9	244.2	327.8	1.0209	18.12	19.9114545
11.06.2015 15:24:54.0	243.98	327.7	0.2606	18.04	10.0600141
11.06.2015 15:24:54.1	241.55	327.8	1.4521	17.95	23.7470489
11.06.2015 15:24:54.2	241.72	327.8	1.1017	18.08	20.6844062
11.06.2015 15:24:54.3	241.63	327.8	0.6872	18.15	16.3362721
11.06.2015 15:24:54.4	239.45	327.8	0.7966	18.03	17.5886106
11.06.2015 15:24:54.5	239.12	327.9	1.9335	17.91	27.4020763
11.06.2015 15:24:54.6	239.1	327.9	1.2623	18.13	22.1407677
11.06.2015 15:24:54.7	238.58	327.9	1.3767	18.17	23.1223004
11.06.2015 15:24:54.8	236.39	327.9	1.1772	17.95	21.3814183
11.06.2015 15:24:54.9	236.63	328	1.0063	17.95	19.7685638
11.06.2015 15:24:55.0	236.59	328.1	1.0128	18.09	19.8323067
11.06.2015 15:24:55.1	234	327.9	1.2146	18.2	21.7184097
11.06.2015 15:24:55.2	234.06	327.9	1.1454	18.01	21.0906504
11.06.2015 15:24:55.3	234.02	328.1	1.3697	18.02	23.0634414
11.06.2015 15:24:55.4	232.18	328.1	1.0014	18.11	19.7203753
11.06.2015 15:24:55.5	231.45	328	0.8057	18.15	17.6887875
11.06.2015 15:24:55.6	231.51	328	1.0311	18.07	20.0106768
11.06.2015 15:24:55.7	231.23	328.2	0.985	18.01	19.5582277
11.06.2015 15:24:55.8	228.81	328.2	1.1692	18.09	21.3086427
11.06.2015 15:24:55.9	228.96	328.1	0.9077	18.08	18.7751126
11.06.2015 15:24:56.0	228.95	328.1	1.1929	18.02	21.5235252
11.06.2015 15:24:56.1	226.66	328.2	0.7452	18.07	17.0117036
11.06.2015 15:24:56.2	226.37	328.2	1.2216	18.1	21.7809037
11.06.2015 15:24:56.3	226.38	328.1	0.8785	18.04	18.4706537
11.06.2015 15:24:56.4	225.86	328.2	1.2212	17.96	21.7773375
11.06.2015 15:24:56.5	223.66	328.3	1.6895	18.04	25.6147712
11.06.2015 15:24:56.6	223.89	328.2	1.6026	18.19	24.9473231
11.06.2015 15:24:56.7	223.86	328.2	0.9828	18.06	19.5363738
11.06.2015 15:24:56.8	222.08	328.2	1.0571	17.96	20.2613986
11.06.2015 15:24:56.9	221.25	328.2	0.9101	18.11	18.7999174
11.06.2015 15:24:57.0	221.3	328.1	0.4668	18.17	13.4640838
11.06.2015 15:24:57.1	221.13	328.1	1.0912	18.03	20.5856015
11.06.2015 15:24:57.2	218.64	328.2	1.4857	17.96	24.020218
11.06.2015 15:24:57.3	218.82	328.3	1.2203	18.17	21.7693113
11.06.2015 15:24:57.4	218.79	328.1	1.0272	18.18	19.972797
11.06.2015 15:24:57.5	216.28	328.1	1.2437	18.03	21.9770401
11.06.2015 15:24:57.6	215.86	328.2	1.209	18.04	21.6682847
11.06.2015 15:24:57.7	215.89	328.2	1.1044	18.15	20.7097369
11.06.2015 15:24:57.8	215.85	328	1.2945	18.21	22.4213837

11.06.2015 15:24:57.9	213.78	328	0.9622	18.12	19.3305433
11.06.2015 15:24:58.0	213.71	328.2	1.095	18.1	20.6214141
11.06.2015 15:24:58.1	213.71	328.2	1.2363	18.1	21.911561
11.06.2015 15:24:58.2	212.9	328	1.2598	18.12	22.1188318
11.06.2015 15:24:58.3	210.49	328.1	1.4971	18.11	24.1121973
11.06.2015 15:24:58.4	210.83	328.2	1.3606	18.12	22.9866994
11.06.2015 15:24:58.5	210.59	328.1	1.2318	18.18	21.8716468
11.06.2015 15:24:58.6	207.69	328.1	1.2362	18.11	21.9106748
11.06.2015 15:24:58.7	207.92	328.1	1.3857	18.01	23.1977568
11.06.2015 15:24:58.8	207.88	328.2	1.15	18.03	21.1329587
11.06.2015 15:24:58.9	207.61	328.2	1.302	18.18	22.4862417
11.06.2015 15:24:59.0	205.54	328.1	1.7895	18.06	26.361932
11.06.2015 15:24:59.1	205.73	328.2	1.5819	18	24.7856833
11.06.2015 15:24:59.2	205.69	328.3	1.5545	18.11	24.57009
11.06.2015 15:24:59.3	203.02	328.2	1.7708	18.24	26.2238312
11.06.2015 15:24:59.4	202.77	328.1	1.3449	18.04	22.8536925
11.06.2015 15:24:59.5	202.78	328.2	1.1741	18	21.3532472
11.06.2015 15:24:59.6	202.19	328.2	1.2449	18.09	21.98764
11.06.2015 15:24:59.7	200.04	328.1	1.5284	18.21	24.3629513
11.06.2015 15:24:59.8	200.24	328	1.1432	17.96	21.070386
11.06.2015 15:24:59.9	200.23	328.1	0.8668	17.94	18.3472439
11.06.2015 15:25:00.0	197.56	328.2	1.0907	18.08	20.5808847
11.06.2015 15:25:00.1	197.69	328	1.2887	18.14	22.3710979
11.06.2015 15:25:00.2	197.66	328	0.7229	17.98	16.7552339
11.06.2015 15:25:00.3	196.7	328.2	0.9342	18	19.0472076
11.06.2015 15:25:00.4	194.96	328.3	1.1499	18.1	21.1320398
11.06.2015 15:25:00.5	195.19	328.1	1.3808	18.09	23.1567055
11.06.2015 15:25:00.6	195.15	328.1	1.4812	18.02	23.9838133
11.06.2015 15:25:00.7	192.96	328.3	1.4839	18.03	24.0056628
11.06.2015 15:25:00.8	192.57	328.3	1.5622	18.09	24.6308671
11.06.2015 15:25:00.9	192.61	328.2	0.8498	18.09	18.1664366
11.06.2015 15:25:01.0	192.01	328.2	1.2408	18	21.9514026
11.06.2015 15:25:01.1	189.43	328.3	1.7921	18.05	26.3810759
11.06.2015 15:25:01.2	189.74	328.3	1.0879	18.13	20.5544505
11.06.2015 15:25:01.3	189.72	328.2	1.1036	18.06	20.7022348
11.06.2015 15:25:01.4	188.02	328.2	1.1683	18.02	21.3004399
11.06.2015 15:25:01.5	187.12	328.3	1.3545	18.07	22.9351132
11.06.2015 15:25:01.6	187.16	328.2	1.4257	18.19	23.5301913
11.06.2015 15:25:01.7	186.98	328.2	0.9534	18.07	19.2419445
11.06.2015 15:25:01.8	184.46	328.3	1.4743	18	23.9278852
11.06.2015 15:25:01.9	184.66	328.4	1.5839	18.19	24.8013467
11.06.2015 15:25:02.0	184.6	328.3	1.0979	18.25	20.6487029
11.06.2015 15:25:02.1	183.27	328.2	1.3142	18.07	22.5913464
11.06.2015 15:25:02.2	181.56	328.4	1.3273	17.98	22.7036629
11.06.2015 15:25:02.3	181.75	328.4	1.0386	18.13	20.0833216
11.06.2015 15:25:02.4	181.68	328.3	0.7797	18.17	17.4010378
11.06.2015 15:25:02.5	179.36	328.3	1.171	17.99	21.3250388
11.06.2015 15:25:02.6	179.19	328.5	1.4874	17.94	24.0339566
11.06.2015 15:25:02.7	179.15	328.5	1.1908	18.09	21.5045717
11.06.2015 15:25:02.8	178.54	328.3	0.9898	18.09	19.6058244
11.06.2015 15:25:02.9	176.41	328.3	1.37	18.04	23.065967
11.06.2015 15:25:03.0	176.68	328.5	1.6887	17.99	25.608706
11.06.2015 15:25:03.1	176.52	328.5	1.4571	18.1	23.7878977
11.06.2015 15:25:03.2	173.59	328.3	1.6682	18.12	25.4527928
11.06.2015 15:25:03.3	173.73	328.3	1.4729	18.08	23.9165215
11.06.2015 15:25:03.4	173.71	328.5	1.3374	18.11	22.7898802
11.06.2015 15:25:03.5	173.49	328.4	1.715	18.14	25.807352
11.06.2015 15:25:03.6	171.41	328.4	1.316	18.11	22.6068123
11.06.2015 15:25:03.7	171.56	328.4	1.16	18.01	21.2246422
11.06.2015 15:25:03.8	171.59	328.5	1.1127	18.09	20.7874122
11.06.2015 15:25:03.9	168.92	328.4	1.1555	18.1	21.1834337
11.06.2015 15:25:04.0	168.59	328.4	1.1285	18.05	20.9344794
11.06.2015 15:25:04.1	168.63	328.5	1.5075	17.97	24.1958032
11.06.2015 15:25:04.2	168.04	328.6	1.3595	18.14	22.9774055
11.06.2015 15:25:04.3	165.86	328.5	1.5324	18.2	24.3948108
11.06.2015 15:25:04.4	166.07	328.5	1.8827	18.04	27.0397047
11.06.2015 15:25:04.5	166.14	328.6	1.5491	17.96	24.5273772
11.06.2015 15:25:04.6	163.46	328.6	1.078	18.15	20.460713
11.06.2015 15:25:04.7	163.56	328.5	1.4866	18.24	24.0274923
11.06.2015 15:25:04.8	163.56	328.5	1.2287	18.1	21.8441079
11.06.2015 15:25:04.9	161.63	328.6	1.2097	18.08	21.6745567

11.06.2015 15:25:05.0	160.93	328.7	1.636	18.17	25.2059478
11.06.2015 15:25:05.1	161.01	328.5	1.1312	18.2	20.9595079
11.06.2015 15:25:05.2	160.7	328.5	1.0814	18	20.492954
11.06.2015 15:25:05.3	158.29	328.7	0.9963	18.03	19.6700946
11.06.2015 15:25:05.4	158.48	328.7	2.3285	18.09	30.0711131
11.06.2015 15:25:05.5	158.49	328.6	1.6713	18.1	25.4764311
11.06.2015 15:25:05.6	157.05	328.7	1.2642	18.01	22.1574244
11.06.2015 15:25:05.7	155.79	328.8	1.1885	18.01	21.4837938
11.06.2015 15:25:05.8	155.94	328.9	1.3225	18.06	22.6625734
11.06.2015 15:25:05.9	155.9	328.8	1.5619	18.06	24.6285019
11.06.2015 15:25:06.0	153.31	328.8	1.2947	18	22.4231157
11.06.2015 15:25:06.1	153.45	328.9	1.4331	18.04	23.5911782
11.06.2015 15:25:06.2	153.37	328.9	1.6401	18.11	25.2375125
11.06.2015 15:25:06.3	152.37	328.8	1.5495	18.09	24.5305437
11.06.2015 15:25:06.4	150.23	328.8	1.6071	18.01	24.9823238
11.06.2015 15:25:06.5	150.51	328.9	1.4558	18.08	23.7772838
11.06.2015 15:25:06.6	150.43	328.8	1.6895	18.14	25.6147712
11.06.2015 15:25:06.7	148.36	328.8	1.5086	18.02	24.2046293
11.06.2015 15:25:06.8	147.94	328.9	1.6863	17.93	25.5905019
11.06.2015 15:25:06.9	147.91	328.9	1.0844	18.11	20.5213599
11.06.2015 15:25:07.0	147.47	328.8	1.2664	18.17	22.1766955
11.06.2015 15:25:07.1	145.19	328.8	2.1047	18.01	28.589495
11.06.2015 15:25:07.2	145.42	328.9	1.6781	17.92	25.5282064
11.06.2015 15:25:07.3	145.32	328.9	1.5115	18.1	24.2278825
11.06.2015 15:25:07.4	142.55	328.7	1.3999	18.13	23.3163137
11.06.2015 15:25:07.5	142.48	328.6	1.2731	18	22.235282
11.06.2015 15:25:07.6	142.43	328.8	1.3914	17.96	23.2454192
11.06.2015 15:25:07.7	142.45	328.8	1.1661	18.15	21.2803752
11.06.2015 15:25:07.8	140.23	328.6	1.2443	18.16	21.9823407
11.06.2015 15:25:07.9	140.32	328.6	1.3289	18.11	22.7173429
11.06.2015 15:25:08.0	140.29	328.7	1.4421	18.06	23.6651397
11.06.2015 15:25:08.1	138.07	328.7	1.2614	18.14	22.1328732
11.06.2015 15:25:08.2	137.33	328.6	1.2713	18.14	22.2195576
11.06.2015 15:25:08.3	137.37	328.6	1.2062	18.11	21.6431787
11.06.2015 15:25:08.4	137.07	328.7	1.2114	18.09	21.689781
11.06.2015 15:25:08.5	134.65	328.6	1.646	18.14	25.2828658
11.06.2015 15:25:08.6	134.86	328.5	1.9794	18.1	27.7254221
11.06.2015 15:25:08.7	134.88	328.5	1.5351	18.01	24.4162925
11.06.2015 15:25:08.8	132.47	328.6	1.1195	18.06	20.8508341
11.06.2015 15:25:08.9	132.24	328.5	1.2577	18.13	22.1003888
11.06.2015 15:25:09.0	132.27	328.4	1.4774	18.03	23.9530285
11.06.2015 15:25:09.1	131.62	328.5	1.0459	17.96	20.1537777
11.06.2015 15:25:09.2	129.53	328.5	1.1876	18.09	21.4756579
11.06.2015 15:25:09.3	129.77	328.4	1.2716	18.19	22.2221791
11.06.2015 15:25:09.4	129.79	328.4	1.4194	17.98	23.4781452
11.06.2015 15:25:09.5	127.89	328.5	1.6106	17.97	25.0095128
11.06.2015 15:25:09.6	127.15	328.5	0.804	18.12	17.6701163
11.06.2015 15:25:09.7	127.21	328.5	0.6787	18.22	16.2349258
11.06.2015 15:25:09.8	126.89	328.4	1.649	18.04	25.3058955
11.06.2015 15:25:09.9	124.1	328.6	1.6848	17.96	25.5791177
11.06.2015 15:25:10.0	124.35	328.7	1.2022	18.11	21.6072624
11.06.2015 15:25:10.1	124.31	328.5	1.2367	18.13	21.9151054
11.06.2015 15:25:10.2	122.98	328.5	1.6321	18.07	25.1758861
11.06.2015 15:25:10.3	121.65	328.7	1.5279	18.01	24.358966
11.06.2015 15:25:10.4	121.77	328.7	1.1389	18.09	21.0307219
11.06.2015 15:25:10.5	121.74	328.5	1.0832	18.08	20.5100023
11.06.2015 15:25:10.6	119.25	328.5	1.3752	18.09	23.1097004
11.06.2015 15:25:10.7	119.25	328.7	1.0009	18.08	19.7154515
11.06.2015 15:25:10.8	119.19	328.7	1.1485	18.11	21.1191718
11.06.2015 15:25:10.9	118.34	328.6	1.4977	18.14	24.1170286
11.06.2015 15:25:11.0	116.07	328.7	1.1816	18.06	21.4213395
11.06.2015 15:25:11.1	116.35	328.8	1.2051	18.11	21.6333077
11.06.2015 15:25:11.2	116.29	328.8	1.8264	18.18	26.6323404
11.06.2015 15:25:11.3	114.31	328.7	1.4182	18.09	23.4682185
11.06.2015 15:25:11.4	113.73	328.8	1.067	18.02	20.3560539
11.06.2015 15:25:11.5	113.78	328.8	1.1635	18.13	21.256638
11.06.2015 15:25:11.6	113.38	328.8	1.3979	18.15	23.2996521
11.06.2015 15:25:11.7	111.05	328.8	1.6241	18.05	25.1141085
11.06.2015 15:25:11.8	111.28	328.8	1.361	17.92	22.9900781
11.06.2015 15:25:11.9	111.24	328.9	1.1009	18.12	20.6768948
11.06.2015 15:25:12.0	108.47	328.8	1.3189	18.18	22.6317073

11.06.2015 15:25:12.1	108.3	328.8	1.7136	17.99	25.7968162
11.06.2015 15:25:12.2	108.3	328.9	1.8493	17.93	26.7987828
11.06.2015 15:25:12.3	108.3	329	1.452	18.09	23.7462312
11.06.2015 15:25:12.4	106.06	328.8	1.3027	18.13	22.4922856
11.06.2015 15:25:12.5	106.17	328.7	1.7009	17.99	25.7010445
11.06.2015 15:25:12.6	106.17	328.9	1.8365	17.97	26.7058773
11.06.2015 15:25:12.7	103.96	328.9	1.3154	18.16	22.6016582
11.06.2015 15:25:12.8	103.18	328.7	1.0698	18.19	20.3827454
11.06.2015 15:25:12.9	103.22	328.7	1.3738	18.08	23.0979342
11.06.2015 15:25:13.0	102.11	328.9	1.7364	18.07	25.9678666
11.06.2015 15:25:13.1	100.49	328.9	1.7065	18.13	25.7433185
11.06.2015 15:25:13.2	100.72	328.7	1.6923	18.15	25.6359881
11.06.2015 15:25:13.3	100.7	328.7	1.5744	18.04	24.7268574
11.06.2015 15:25:13.4	98.4	328.8	1.7741	18.08	26.2482547
11.06.2015 15:25:13.5	98.12	328.8	1.7349	18.11	25.956648
11.06.2015 15:25:13.6	98.14	328.7	1.4274	18.02	23.5442158
11.06.2015 15:25:13.7	96.59	328.7	1.5805	17.96	24.7747131
11.06.2015 15:25:13.8	95.51	328.8	1.5515	18.1	24.5463698
11.06.2015 15:25:13.9	95.59	328.7	1.6204	18.15	25.0854849
11.06.2015 15:25:14.0	95.54	328.6	1.5233	18.06	24.32227
11.06.2015 15:25:14.1	92.97	328.7	1.1478	17.97	21.1127348
11.06.2015 15:25:14.2	93.11	328.7	0.8506	18.11	18.1749855
11.06.2015 15:25:14.3	93.05	328.6	1.357	18.2	22.9562691
11.06.2015 15:25:14.4	92.04	328.6	1.6391	18.03	25.2298175
11.06.2015 15:25:14.5	90.36	328.7	1.2941	17.93	22.4179193
11.06.2015 15:25:14.6	90.51	328.7	1.4474	18.12	23.7085868
11.06.2015 15:25:14.7	90.5	328.5	1.4997	18.17	24.1331259
11.06.2015 15:25:14.8	88.3	328.4	1.4609	18.01	23.818896
11.06.2015 15:25:14.9	87.99	328.5	1.6434	17.97	25.2628896
11.06.2015 15:25:15.0	87.96	328.5	1.8526	18.09	26.8226828
11.06.2015 15:25:15.1	87.36	328.3	1.3734	18.11	23.0945713
11.06.2015 15:25:15.2	84.88	328.3	1.9741	18.04	27.6882787
11.06.2015 15:25:15.3	85.04	328.5	1.6977	18.01	25.6768567
11.06.2015 15:25:15.4	85.03	328.4	1.2958	18.12	22.4326392
11.06.2015 15:25:15.5	83.62	328.2	1.0589	18.1	20.2786415
11.06.2015 15:25:15.6	82.82	328.2	1.5475	18.06	24.5147073
11.06.2015 15:25:15.7	82.86	328.3	1.8925	18.07	27.1099881
11.06.2015 15:25:15.8	81.88	328.4	1.3061	18.12	22.5216185
11.06.2015 15:25:15.9	79.78	328.2	1.7307	18.12	25.9252098
11.06.2015 15:25:16.0	80.01	328.3	1.7496	18.04	26.0663828
11.06.2015 15:25:16.1	80	328.4	1.2863	18.13	22.3502568
11.06.2015 15:25:16.2	77.86	328.3	1.2801	18.17	22.2963274
11.06.2015 15:25:16.3	77.39	328.3	1.2129	18.16	21.7032054
11.06.2015 15:25:16.4	77.43	328.3	1.6541	18.03	25.3449982
11.06.2015 15:25:16.5	76.1	328.3	1.2264	18.18	21.8236533
11.06.2015 15:25:16.6	74.76	328.3	1.2885	18.22	22.3693618
11.06.2015 15:25:16.7	74.89	328.3	1.3768	18.09	23.1231402
11.06.2015 15:25:16.8	74.89	328.4	1.8356	17.99	26.6993327
11.06.2015 15:25:16.9	72.38	328.4	1.5177	18.17	24.2775217
11.06.2015 15:25:17.0	72.32	328.3	1.5755	18.23	24.7354939
11.06.2015 15:25:17.1	72.33	328.3	1.5372	18.04	24.4329874
11.06.2015 15:25:17.2	70.59	328.4	1.6874	18.02	25.5988471
11.06.2015 15:25:17.3	69.74	328.4	1.2681	18.11	22.1915754
11.06.2015 15:25:17.4	69.82	328.3	1.5579	18.19	24.5969451
11.06.2015 15:25:17.5	69.64	328.2	1.374	18.01	23.0996154
11.06.2015 15:25:17.6	67.13	328.3	1.4519	18.06	23.7454135
11.06.2015 15:25:17.7	67.24	328.3	1.3764	18.11	23.119781
11.06.2015 15:25:17.8	67.3	328.1	1.7046	18.16	25.7289833
11.06.2015 15:25:17.9	66.01	328.1	1.7343	18.06	25.9521591
11.06.2015 15:25:18.0	64.55	328.3	1.4354	18.1	23.6101015
11.06.2015 15:25:18.1	64.73	328.3	1.4204	18.12	23.4864142
11.06.2015 15:25:18.2	64.77	328.1	1.448	18.18	23.7135003
11.06.2015 15:25:18.3	61.95	328.2	1.5209	18.07	24.3031022
11.06.2015 15:25:18.4	61.84	328.2	1.6923	18.16	25.6359881
11.06.2015 15:25:18.5	61.82	328.2	1.837	18.16	26.7095125
11.06.2015 15:25:18.6	61.11	328.1	1.6833	18.08	25.5677284
11.06.2015 15:25:18.7	58.99	328.1	1.6337	18.05	25.1882235
11.06.2015 15:25:18.8	59.31	328.1	1.5628	18.16	24.6355966
11.06.2015 15:25:18.9	59.25	328	1.6366	18.18	25.2105695
11.06.2015 15:25:19.0	57.34	327.9	1.3768	18.02	23.1231402
11.06.2015 15:25:19.1	56.71	327.9	1.5153	17.97	24.2583186



11.06.2015 15:25:19.2	56.75	327.9	1.5537	18.1	24.5637668
11.06.2015 15:25:19.3	56.34	327.8	1.6967	18.2	25.6692934
11.06.2015 15:25:19.4	53.63	327.7	1.5858	17.98	24.8162177
11.06.2015 15:25:19.5	53.85	327.9	1.9044	17.95	27.1950881
11.06.2015 15:25:19.6	53.79	327.9	1.5241	18.13	24.3286558
11.06.2015 15:25:19.7	52.43	327.8	1.273	18.19	22.2344087
11.06.2015 15:25:19.8	51.2	327.7	1.4849	18.03	24.0137501
11.06.2015 15:25:19.9	51.28	327.9	1.7379	17.98	25.9790805
11.06.2015 15:25:20.0	50.65	328	1.6535	18.17	25.340401
11.06.2015 15:25:20.1	48.54	327.8	1.304	18.17	22.5035057
11.06.2015 15:25:20.2	48.77	327.8	1.661	18.07	25.3978059
11.06.2015 15:25:20.3	48.68	328	1.3853	18.02	23.1944084
11.06.2015 15:25:20.4	46.91	328	1.2671	18.15	22.1828238
11.06.2015 15:25:20.5	46.19	327.9	1.7528	18.14	26.0902094
11.06.2015 15:25:20.6	46.18	327.9	1.7421	18.03	26.0104535
11.06.2015 15:25:20.7	45.17	328	1.6231	18.1	25.1063756
11.06.2015 15:25:20.8	43.49	328	1.5552	18.09	24.5756214
11.06.2015 15:25:20.9	43.68	327.9	1.9477	18.1	27.5025153
11.06.2015 15:25:21.0	43.62	328	1.6118	17.99	25.0188279
11.06.2015 15:25:21.1	41.45	328.1	1.5683	18.06	24.6789089
11.06.2015 15:25:21.2	41.06	328	1.4691	18.11	23.8856499
11.06.2015 15:25:21.3	41.08	327.9	1.5646	18.1	24.6497799
11.06.2015 15:25:21.4	39.63	328	1.6122	18.05	25.0219321
11.06.2015 15:25:21.5	38.49	328.1	1.1776	18.2	21.3850506
11.06.2015 15:25:21.6	38.56	328	1.3457	18.24	22.8604887
11.06.2015 15:25:21.7	38.59	328	1.4286	18.07	23.5541104
11.06.2015 15:25:21.8	35.94	328.1	1.9795	17.96	27.7261224
11.06.2015 15:25:21.9	36.02	328.1	1.2993	18.15	22.4629144
11.06.2015 15:25:22.0	35.96	328	1.4772	18.2	23.9514071
11.06.2015 15:25:22.1	34.14	328	1.6933	18.04	25.6435612
11.06.2015 15:25:22.2	33.45	328.1	1.3039	17.94	22.5026428
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11.06.2015 15:25:23.4	25.49	328.3	1.6716	18.08	25.4787176
11.06.2015 15:25:23.5	23.71	328.3	1.6567	18.14	25.3649096
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11.06.2015 15:25:23.7	22.91	328.3	1.627	18.05	25.1365204
11.06.2015 15:25:23.8	22.74	328.3	1.4972	18.09	24.1130026
11.06.2015 15:25:23.9	20.23	328.3	1.5165	18.17	24.267922
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11.06.2015 15:25:24.4	17.88	328.3	1.9088	18.01	27.2264862
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11.06.2015 15:25:25.3	10.43	328.5	1.4826	17.99	23.9951451
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11.06.2015 15:25:26.2	4.42	328.7	1.1399	18.14	21.0399527

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11.06.2015 15:25:27.3	-3.21	329	1.3469	18.21	22.8706791
11.06.2015 15:25:27.4	-5.42	328.9	1.4253	18.17	23.5268902
11.06.2015 15:25:27.5	-5.76	328.8	1.6349	18.13	25.1974725
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11.06.2015 15:25:27.7	-6.32	329.1	1.5716	18.13	24.7048598
11.06.2015 15:25:27.8	-8.47	328.8	1.5627	18.14	24.6348084
11.06.2015 15:25:27.9	-8.3	328.8	1.3996	18.11	23.3138152
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11.06.2015 15:25:28.1	-10.9	329	1.8438	18.15	26.758902
11.06.2015 15:25:28.2	-10.78	328.8	1.7962	18.06	26.4112362
11.06.2015 15:25:28.3	-10.86	328.9	2.1047	18.07	28.589495
11.06.2015 15:25:28.4	-11.79	328.9	1.7735	18.11	26.2438157
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11.06.2015 15:25:28.6	-13.37	328.8	1.664	18.1	25.4207315
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11.06.2015 15:25:28.8	-16.06	328.9	1.6095	18.13	25.0009709
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11.06.2015 15:25:30.8	-28.98	329	1.407	18.19	23.3753667
11.06.2015 15:25:30.9	-30.77	328.8	1.6809	18.12	25.5494951
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11.06.2015 15:25:31.3	-34.19	328.8	1.8342	18.08	26.6891491
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11.06.2015 15:25:31.6	-36.31	328.7	1.7295	18.2	25.9162205
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11.06.2015 15:25:32.4	-42.04	328.8	1.9354	18.22	27.4155367
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11.06.2015 15:25:34.5	-58.3	329.3	1.7352	18.04	25.9588921
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11.06.2015 15:25:34.8	-60.01	329.1	1.7311	18.09	25.9282056
11.06.2015 15:25:34.9	-60.65	329.3	1.6981	18.03	25.6798814
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11.06.2015 15:25:36.4	-71.11	329.4	1.8083	18.02	26.5000458
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11.06.2015 15:25:36.6	-73.53	329.4	1.8349	18.26	26.6942414
11.06.2015 15:25:36.7	-74.06	329.4	1.2938	18.1	22.4153207
11.06.2015 15:25:36.8	-74.07	329.6	1.5345	18.08	24.4115204
11.06.2015 15:25:36.9	-74.41	329.6	1.3328	18.2	22.7506535
11.06.2015 15:25:37.0	-76.34	329.5	1.6767	18.28	25.5175554
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11.06.2015 15:25:37.3	-79.08	329.6	1.6732	18.24	25.4909083
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11.06.2015 15:25:37.5	-79.16	329.3	1.4935	18.16	24.0831892
11.06.2015 15:25:37.6	-79.95	329.5	1.7842	18.13	26.3228647
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11.06.2015 15:25:38.9	-89.25	329.4	1.5179	18.19	24.2791212
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11.06.2015 15:25:39.5	-94.39	329.5	1.4253	18.02	23.5268902
11.06.2015 15:25:39.6	-94.32	329.5	1.7877	18.09	26.3486703
11.06.2015 15:25:39.7	-95.64	329.4	1.7927	18.11	26.3854917
11.06.2015 15:25:39.8	-97.46	329.4	1.852	18.05	26.8183389
11.06.2015 15:25:39.9	-97.27	329.6	1.3623	18.02	23.0010553
11.06.2015 15:25:40.0	-97.25	329.6	1.4709	18.14	23.9002783
11.06.2015 15:25:40.1	-99.58	329.4	1.5917	18.16	24.8623394
11.06.2015 15:25:40.2	-99.81	329.5	1.2545	18.1	22.0722556
11.06.2015 15:25:40.3	-99.82	329.7	1.906	18.09	27.2065098
11.06.2015 15:25:40.4	-99.78	329.7	1.8506	18.22	26.8082005

11.06.2015 15:25:40.5	-102.33	329.6	1.7079	18.11	25.7538761
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11.06.2015 15:25:40.7	-102.39	329.8	1.6798	18.15	25.5411338
11.06.2015 15:25:40.8	-104.42	329.8	1.6982	18.16	25.6806376
11.06.2015 15:25:40.9	-105.29	329.8	1.7019	18.07	25.7085985
11.06.2015 15:25:41.0	-105.27	329.8	1.5987	17.99	24.9169494
11.06.2015 15:25:41.1	-105.47	329.9	1.9631	18.07	27.6110292
11.06.2015 15:25:41.2	-107.89	329.9	1.6133	18.16	25.0304669
11.06.2015 15:25:41.3	-107.78	329.9	1.6494	18.01	25.3089646
11.06.2015 15:25:41.4	-107.82	330	1.699	17.95	25.6866858
11.06.2015 15:25:41.5	-109.07	330	1.372	18.11	23.0827974
11.06.2015 15:25:41.6	-110.45	330	1.5381	18.17	24.4401389
11.06.2015 15:25:41.7	-110.35	330	2.0848	17.99	28.4540167
11.06.2015 15:25:41.8	-110.34	330.1	1.3608	17.94	22.9883888
11.06.2015 15:25:41.9	-113.11	330.1	1.6173	18.19	25.0614778
11.06.2015 15:25:42.0	-113.19	330	1.446	18.21	23.6971179
11.06.2015 15:25:42.1	-113.21	330	1.8849	18.05	27.0554985
11.06.2015 15:25:42.2	-114.06	330.1	1.3714	18.05	23.0777495
11.06.2015 15:25:42.3	-116	330.2	1.6	18.12	24.9270781
11.06.2015 15:25:42.4	-115.75	330	1.2668	18.19	22.1801976
11.06.2015 15:25:42.5	-115.79	330	1.7288	18.1	25.9109753
11.06.2015 15:25:42.6	-117.76	330.2	1.572	18.1	24.7080035
11.06.2015 15:25:42.7	-118.3	330.2	1.5957	18.15	24.8935598
11.06.2015 15:25:42.8	-118.28	330	1.5476	18.15	24.5154994
11.06.2015 15:25:42.9	-118.7	330.1	1.5427	18.06	24.4766582
11.06.2015 15:25:43.0	-121.45	330.2	1.4377	18.1	23.6290097
11.06.2015 15:25:43.1	-121.16	330.2	1.0584	18.12	20.2738533
11.06.2015 15:25:43.2	-121.22	330.1	1.3541	18.06	22.9317264
11.06.2015 15:25:43.3	-121.77	330.2	1.6129	18.01	25.0273637
11.06.2015 15:25:43.4	-123.92	330.3	1.7952	18.15	26.4038832
11.06.2015 15:25:43.5	-123.7	330.2	1.2566	18.22	22.090722
11.06.2015 15:25:43.6	-123.75	330.2	1.496	18.04	24.1033374
11.06.2015 15:25:43.7	-125.43	330.3	1.8134	18.05	26.5373889
11.06.2015 15:25:43.8	-126.35	330.3	1.6127	18.16	25.0258119
11.06.2015 15:25:43.9	-126.31	330.2	1.8324	18.28	26.6760501
11.06.2015 15:25:44.0	-126.33	330.1	1.5503	18.08	24.5368754
11.06.2015 15:25:44.1	-128.48	330.2	1.8062	18.1	26.4846539
11.06.2015 15:25:44.2	-129.24	330.2	1.4127	18.19	23.4226676
11.06.2015 15:25:44.3	-129.17	330.1	1.5355	18.27	24.4194734
11.06.2015 15:25:44.4	-130.49	330.1	1.79	18.07	26.3656146
11.06.2015 15:25:44.5	-132.29	330.3	1.4898	17.99	24.0533388
11.06.2015 15:25:44.6	-132.08	330.3	1.5699	18.15	24.6914945
11.06.2015 15:25:44.7	-132.07	330.1	1.3496	18.16	22.8935909
11.06.2015 15:25:44.8	-133.51	330.1	1.8024	18.09	26.4567792
11.06.2015 15:25:44.9	-134.79	330.3	1.5712	18.01	24.7017157
11.06.2015 15:25:45.0	-134.59	330.3	1.5274	18.1	24.35498
11.06.2015 15:25:45.1	-134.59	330.1	2.0478	18.11	28.2003925
11.06.2015 15:25:45.2	-137.24	330.1	1.484	18.1	24.0064716
11.06.2015 15:25:45.3	-137.15	330.2	1.7707	18.08	26.2230907
11.06.2015 15:25:45.4	-137.16	330.2	2.0489	18.15	28.2079655
11.06.2015 15:25:45.5	-137.31	330	1.9446	18.16	27.4806198
11.06.2015 15:25:45.6	-140.3	330.1	1.5096	18.09	24.2126501
11.06.2015 15:25:45.7	-140.04	330.1	1.9123	18.14	27.2514362
11.06.2015 15:25:45.8	-140.08	330.1	1.781	18.18	26.2992488
11.06.2015 15:25:45.9	-142.45	330	1.9723	18.12	27.6756526
11.06.2015 15:25:46.0	-143	330.1	2.1357	18.02	28.7992718
11.06.2015 15:25:46.1	-142.98	330.1	1.6649	18.18	25.4276052
11.06.2015 15:25:46.2	-143.43	330.1	2.3455	18.21	30.1806857
11.06.2015 15:25:46.3	-145.72	330.1	1.8653	18.12	26.9144636
11.06.2015 15:25:46.4	-145.53	330.2	2.3524	18.07	30.2250459
11.06.2015 15:25:46.5	-145.55	330.3	2.0251	18.21	28.0436553
11.06.2015 15:25:46.6	-147.97	330.2	2.1561	18.28	28.9364889
11.06.2015 15:25:46.7	-148.05	330.1	1.7671	18.07	26.1964201
11.06.2015 15:25:46.8	-148.12	330.3	1.7597	18.05	26.1415118
11.06.2015 15:25:46.9	-148.81	330.3	1.91	18.17	27.2350431
11.06.2015 15:25:47.0	-150.84	330.1	2.1322	18.2	28.7756639
11.06.2015 15:25:47.1	-150.64	330.1	2.0334	18.08	28.1010659
11.06.2015 15:25:47.2	-150.69	330.3	2.1769	18.12	29.0757297
11.06.2015 15:25:47.3	-151.58	330.4	1.519	18.14	24.287917
11.06.2015 15:25:47.4	-153.33	330.2	1.0798	18.14	20.4777881
11.06.2015 15:25:47.5	-153.18	330.2	2.1172	18.11	28.6742671

11.06.2015 15:25:47.6	-153.53	330.4	2.3461	18.1	30.1845457
11.06.2015 15:25:47.7	-156.24	330.4	2.2204	18.16	29.3647963
11.06.2015 15:25:47.8	-156.05	330.3	1.7976	18.07	26.421527
11.06.2015 15:25:47.9	-156.1	330.4	0.9879	18.03	19.5869979
11.06.2015 15:25:48.0	-157.5	330.5	1.0587	18.08	20.2767263
11.06.2015 15:25:48.1	-158.7	330.5	1.5172	18.13	24.2735223
11.06.2015 15:25:48.2	-158.61	330.4	1.4366	18.09	23.6199685
11.06.2015 15:25:48.3	-158.59	330.5	2.0458	17.98	28.186618
11.06.2015 15:25:48.4	-161.19	330.6	1.653	18.13	25.3365694
11.06.2015 15:25:48.5	-161.12	330.5	1.9557	18.19	27.5589395
11.06.2015 15:25:48.6	-161.18	330.5	1.7718	18.07	26.2312346
11.06.2015 15:25:48.7	-162.18	330.6	1.8025	17.96	26.4575131
11.06.2015 15:25:48.8	-164.29	330.7	1.8124	18.16	26.5300709
11.06.2015 15:25:48.9	-164.03	330.6	1.6994	18.18	25.6897093
11.06.2015 15:25:49.0	-164.05	330.6	2.2601	18.02	29.6261496
11.06.2015 15:25:49.1	-165.24	330.7	1.5489	17.97	24.5257938
11.06.2015 15:25:49.2	-166.72	330.8	1.6275	18.16	25.1403826
11.06.2015 15:25:49.3	-166.56	330.7	1.7583	18.18	26.1311108
11.06.2015 15:25:49.4	-166.64	330.7	1.9743	18.01	27.6896812
11.06.2015 15:25:49.5	-168.92	330.9	1.7428	18	26.0156786
11.06.2015 15:25:49.6	-169.13	330.9	1.755	18.15	26.1065777
11.06.2015 15:25:49.7	-169.14	330.7	1.6578	18.09	25.373329
11.06.2015 15:25:49.8	-169.15	330.7	1.8017	18.03	26.4516412
11.06.2015 15:25:49.9	-172.03	330.9	1.8969	18	27.1414847
11.06.2015 15:25:50.0	-171.99	330.9	2.3342	18.11	30.1078966
11.06.2015 15:25:50.1	-172.05	330.7	2.2559	18.08	29.5986093
11.06.2015 15:25:50.2	-174.14	330.7	1.3738	18.01	23.0979342
11.06.2015 15:25:50.3	-175.01	330.8	2.0797	18.03	28.4191922
11.06.2015 15:25:50.4	-174.96	330.8	1.5865	18.1	24.8216942
11.06.2015 15:25:50.5	-174.93	330.7	1.7203	18.06	25.8471985
11.06.2015 15:25:50.6	-177.02	330.8	1.794	18.01	26.3950569
11.06.2015 15:25:50.7	-177.48	330.9	1.6918	18.08	25.6322006
11.06.2015 15:25:50.8	-177.48	330.8	1.4738	18.15	23.9238273
11.06.2015 15:25:50.9	-177.97	330.8	2.0514	18.03	28.2251695
11.06.2015 15:25:51.0	-180.62	330.9	1.9007	18.01	27.168657
11.06.2015 15:25:51.1	-180.4	330.9	1.5464	18.08	24.5059929
11.06.2015 15:25:51.2	-180.41	330.8	1.8795	18.2	27.0167154
11.06.2015 15:25:51.3	-181.01	330.8	1.9072	18	27.2150729
11.06.2015 15:25:51.4	-183.15	330.9	1.9561	17.89	27.5617577
11.06.2015 15:25:51.5	-182.87	330.9	2.5074	18.13	31.2049287
11.06.2015 15:25:51.6	-182.94	330.8	1.8226	18.19	26.6046204
11.06.2015 15:25:51.7	-186.02	330.8	2.5639	18.05	31.5545452
11.06.2015 15:25:51.8	-185.8	331	1.95	18.05	27.5187491
11.06.2015 15:25:51.9	-185.86	331	1.4261	18.17	23.5334919
11.06.2015 15:25:52.0	-186.87	330.9	2.0134	18.15	27.9625269
11.06.2015 15:25:52.1	-188.57	330.8	1.5538	18.16	24.5645573
11.06.2015 15:25:52.2	-188.4	331	1.9182	18.07	27.2934431
11.06.2015 15:25:52.3	-188.71	330.9	2.0816	18.14	28.432171
11.06.2015 15:25:52.4	-191.07	330.7	2.3447	18.11	30.1755382
11.06.2015 15:25:52.5	-190.92	330.7	1.991	18.07	27.8065439
11.06.2015 15:25:52.6	-190.96	330.9	1.7849	18.1	26.3280278
11.06.2015 15:25:52.7	-192.33	330.8	1.4998	18.12	24.1339305
11.06.2015 15:25:52.8	-193.56	330.7	1.7111	18.13	25.7779917
11.06.2015 15:25:52.9	-193.49	330.8	2.1807	18.04	29.101096
11.06.2015 15:25:53.0	-193.45	330.8	1.7361	18.09	25.9656233
11.06.2015 15:25:53.1	-195.1	330.8	2.2655	18.11	29.661521
11.06.2015 15:25:53.2	-196.06	330.8	1.9097	18.03	27.2329041
11.06.2015 15:25:53.3	-196.03	330.8	1.7266	18	25.8944834
11.06.2015 15:25:53.4	-197	330.9	1.9371	18.11	27.4275745
11.06.2015 15:25:53.5	-199.15	330.8	1.8214	18.17	26.5958607
11.06.2015 15:25:53.6	-198.96	330.9	1.2436	18.03	21.9761565
11.06.2015 15:25:53.7	-198.9	331	1.2449	17.94	21.98764
11.06.2015 15:25:53.8	-200.97	331	1.5393	18.13	24.4496709
11.06.2015 15:25:53.9	-201.46	330.9	1.3296	18.2	22.7233253
11.06.2015 15:25:54.0	-201.46	330.9	1.557	18.09	24.5898392
11.06.2015 15:25:54.1	-201.44	331.1	1.564	18	24.6450531
11.06.2015 15:25:54.2	-203.77	331.1	1.7578	18.17	26.1273951
11.06.2015 15:25:54.3	-203.98	331	2.1992	18.16	29.2242751
11.06.2015 15:25:54.4	-204	331	1.7558	18.05	26.1125272
11.06.2015 15:25:54.5	-204.72	331.2	1.5174	18	24.2751221
11.06.2015 15:25:54.6	-207.11	331.2	1.0077	18.14	19.7823104

11.06.2015 15:25:54.7	-206.83	331.1	1.797	18.12	26.4171171
11.06.2015 15:25:54.8	-206.93	331.1	1.2267	18.07	21.8263224
11.06.2015 15:25:54.9	-209.57	331.2	1.3622	18.05	23.0002111
11.06.2015 15:25:55.0	-209.4	331.2	1.5056	18.14	24.1805506
11.06.2015 15:25:55.1	-209.46	331.1	1.5342	18.2	24.4091341
11.06.2015 15:25:55.2	-209.73	331.1	1.7891	18.09	26.3589855
11.06.2015 15:25:55.3	-212.12	331.2	1.5119	18.15	24.2310881
11.06.2015 15:25:55.4	-211.92	331.1	1.4147	18.17	23.4392418
11.06.2015 15:25:55.5	-211.99	331.1	1.7067	18.13	25.744827
11.06.2015 15:25:55.6	-213.45	331.2	1.6781	18.06	25.5282064
11.06.2015 15:25:55.7	-214.98	331.2	1.6307	18.15	25.165086
11.06.2015 15:25:55.8	-214.88	331.2	1.4723	18.26	23.9116497
11.06.2015 15:25:55.9	-215.47	331.2	1.4859	18.1	24.0218347
11.06.2015 15:25:56.0	-217.62	331.2	1.9833	18.11	27.7527222
11.06.2015 15:25:56.1	-217.4	331.3	1.7726	18.17	26.2371559
11.06.2015 15:25:56.2	-217.43	331.2	1.7972	18.22	26.4185872
11.06.2015 15:25:56.3	-217.43	331.1	1.8525	18.06	26.8219588
11.06.2015 15:25:56.4	-217.52	331.2	1.9171	18.01	27.2856163
11.06.2015 15:25:56.5	-217.52	331.3	1.5424	18.18	24.4742782
11.06.2015 15:25:56.6	-217.54	331.2	2.1835	18.17	29.1197728
11.06.2015 15:25:56.7	-217.54	331.1	1.7487	18.05	26.0596776
11.06.2015 15:25:56.8	-217.56	331.3	1.2804	17.97	22.2989399
11.06.2015 15:25:56.9	-217.54	331.3	1.5495	18.2	24.5305437
11.06.2015 15:25:57.0	-217.51	331.1	1.3334	18.14	22.7557738
11.06.2015 15:25:57.1	-217.56	331	2.3283	18.06	30.0698217
11.06.2015 15:25:57.2	-217.54	331.2	1.7428	18.01	26.0156786
11.06.2015 15:25:57.3	-217.5	331.1	1.7804	18.13	26.2948184
11.06.2015 15:25:57.4	-217.54	330.9	1.8286	18.19	26.6483756
11.06.2015 15:25:57.5	-217.59	330.9	1.4294	18.1	23.5607045
11.06.2015 15:25:57.6	-217.53	331	1.4385	18.15	23.6355829
11.06.2015 15:25:57.7	-217.53	331	1.3332	18.19	22.7540672
11.06.2015 15:25:57.8	-217.16	330.9	1.6809	18.19	25.5494951
11.06.2015 15:25:57.9	-216.88	331	1.8986	18.14	27.1536441
11.06.2015 15:25:58.0	-216.86	331	1.6634	18.18	25.4161481
11.06.2015 15:25:58.1	-216.91	330.9	1.634	18.22	25.1905361
11.06.2015 15:25:58.2	-216.93	330.9	1.3531	18.08	22.9232574
11.06.2015 15:25:58.3	-216.9	331	1.4956	18.02	24.1001148

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

$$y = -1.49516615E-14x^6 + 4.04268970E-12x^5 + 3.23245482E-10x^4 - 2.03507318E-07x^3 - 1.91792237E-05x^2 - 8.87967481E-03x + 2.45772621E+01$$

Please enter below Polynomial Coefficients

Order no	Coeff
6	-1.49516615E-14
5	4.04268970E-12
4	3.23245482E-10
3	-2.03507318E-07
2	-1.91792237E-05
1	-8.87967481E-03
0	2.45772621E+01

Actual Area	0.274324656	[m2]
Integrated area	0.274324656	[m2]
Area Error	0	[%]
Integrated Mass flow	2.916221258	[Kg/s]

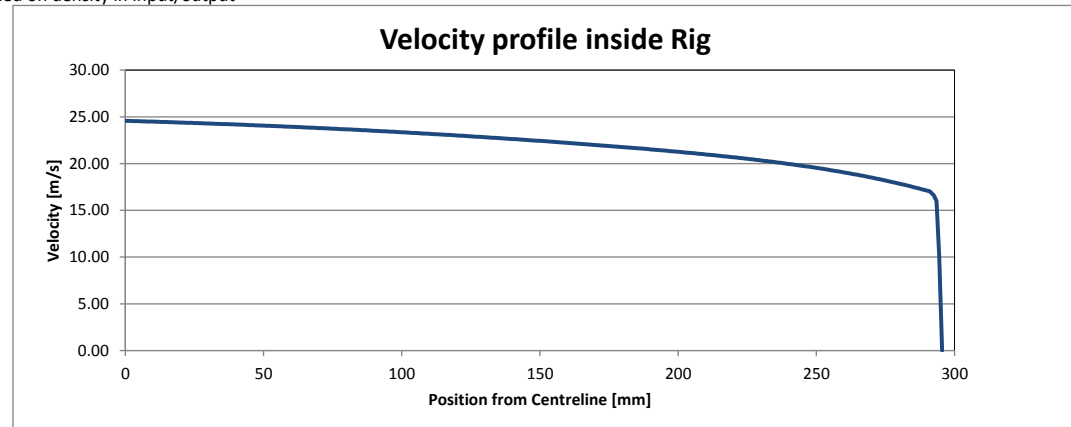
Polynomial curve (dP vs position)

Please do NOT alter any of the figures below

position [mm]	Velocity [m/s]
0	24.577262
1	24.568363
2	24.559424
3	24.550445
4	24.541424
5	24.532359
6	24.523250
7	24.514096
8	24.504894
9	24.495646
10	24.486348
11	24.476999
12	24.467600
13	24.458149
14	24.448644
15	24.439084
16	24.429469
17	24.419797
18	24.410068
19	24.400280
20	24.390433
21	24.380524
22	24.370554
23	24.360522
24	24.350426
25	24.340266
26	24.330040
27	24.319748
28	24.309388
29	24.298961
30	24.288465
31	24.277899
32	24.267263
33	24.256555

Delta Area [m2]	Delta Mass flow [Kg/s]
0	0
3.14159E-06	3.97497E-05
9.42478E-06	0.000119206
1.5708E-05	0.000198603
2.19911E-05	0.000277942
2.82743E-05	0.000357223
3.45575E-05	0.000436443
4.08407E-05	0.000515604
4.71239E-05	0.000594704
5.34071E-05	0.000673744
5.96903E-05	0.000752722
6.59734E-05	0.000831638
7.22566E-05	0.000910492
7.85398E-05	0.000989283
8.4823E-05	0.001068011
9.11062E-05	0.001146674
9.73894E-05	0.001225273
0.000103673	0.001303806
0.000109956	0.001382274
0.000116239	0.001460675
0.000122522	0.001539009
0.000128805	0.001617275
0.000135088	0.001695473
0.000141372	0.001773602
0.000147655	0.001851661
0.000153938	0.00192965
0.000160221	0.002007567
0.000166504	0.002085413
0.000172788	0.002163186
0.000179071	0.002240885
0.000185354	0.002318511
0.000191637	0.002396062
0.00019792	0.002473537
0.000204204	0.002550936

Based on density in input/output



34	24.245776
35	24.234923
36	24.223998
37	24.212997
38	24.201922
39	24.190771
40	24.179544
41	24.168240
42	24.156858
43	24.145398
44	24.133860
45	24.122242
46	24.110544
47	24.098765
48	24.086906
49	24.074965
50	24.062942
51	24.050837
52	24.038649
53	24.026377
54	24.014022
55	24.001583
56	23.989059
57	23.976451
58	23.963758
59	23.950979
60	23.938114
61	23.925163
62	23.912127
63	23.899003
64	23.885793
65	23.872496
66	23.859112
67	23.845640
68	23.832081
69	23.818435
70	23.804700
71	23.790878
72	23.776968
73	23.762970
74	23.748883
75	23.734709
76	23.720446
77	23.706095
78	23.691656
79	23.677129
80	23.662513
81	23.647809
82	23.633017
83	23.618137

0.000210487	0.002628258
0.00021677	0.002705502
0.000223053	0.002782667
0.000229336	0.002859753
0.000235619	0.002936758
0.000241903	0.003013683
0.000248186	0.003090525
0.000254469	0.003167285
0.000260752	0.003243961
0.000267035	0.003320553
0.000273319	0.003397059
0.000279602	0.00347348
0.000285885	0.003549813
0.000292168	0.003626059
0.000298451	0.003702216
0.000304734	0.003778283
0.000311018	0.00385426
0.000317301	0.003930146
0.000323584	0.004005939
0.000329867	0.00408164
0.00033615	0.004157247
0.000342434	0.004232758
0.000348717	0.004308175
0.000355	0.004383494
0.000361283	0.004458717
0.000367566	0.00453384
0.00037385	0.004608865
0.000380133	0.00468379
0.000386416	0.004758613
0.000392699	0.004833335
0.000398982	0.004907954
0.000405265	0.004982469
0.000411549	0.00505688
0.000417832	0.005131186
0.000424115	0.005205385
0.000430398	0.005279477
0.000436681	0.005353461
0.000442965	0.005427336
0.000449248	0.005501101
0.000455531	0.005574755
0.000461814	0.005648298
0.000468097	0.005721729
0.00047438	0.005795046
0.000480664	0.005868249
0.000486947	0.005941337
0.00049323	0.00601431
0.000499513	0.006087165
0.000505796	0.006159903
0.00051208	0.006232523
0.000518363	0.006305023



84	23.603169
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87	23.557738
88	23.542418
89	23.527011
90	23.511517
91	23.495935
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93	23.464510
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97	23.400619
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100	23.351795
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114	23.113836
115	23.096210
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229	20.372738
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271	18.442010
272	18.381079
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274	18.256464
275	18.192745
276	18.128062
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281	17.789529
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283	17.646706

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0.00149854	0.015436369
0.001504823	0.015470472
0.001511106	0.015503948
0.001517389	0.015536783
0.001523672	0.015568964
0.001529956	0.015600478
0.001536239	0.015631312
0.001542522	0.015661451
0.001548805	0.015690882
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0.001561372	0.015747561
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288	17.269725
289	17.190746
290	17.110522
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0.00183469	0.015684766
0.001840973	0.01516962
0.001847256	0.009513371
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:

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

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

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

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