

- MARTE - Marte GAS
- MG001 - Modulo statico/flusso termico stazionario v. 1
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DATI GENERALI -----

Numero di nodi		237
Numero di rami		316
Numero di cabine di salto		0
Nome del gas		methane
Peso molecolare	(kg/kmole)	16.0420
Fattore di compressibilita'	(-)	0.9980
Viscosita' dinamica	(cP)	0.0109
Temperatura media di flusso	(°C)	11.0000
Pressione atmosf. a quota zero	(mBar Ass.)	1013.2500
Peso Molecolare dell'aria	(kg/kmole)	28.9700
Temperatura dell'aria	(°C)	11.0000
Precisione finale sulle portate	(Smc/h)	0.0035

TABELLA DEI MATERIALI -----

Nome	Tipo	Area (m2)	Diametro int.(mm)	Scabrez. (micron)	Spessore (mm)	Lunghezza (m)
PES5 110	Circolare	0.006	90.000	10.000	0.000	4461.80
PES5 125	Circolare	0.008	102.200	10.000	0.000	3285.47
PES5 160	Circolare	0.013	130.800	10.000	0.000	1200.66
PES5 200	Circolare	0.021	163.600	10.000	0.000	124.30
PES5 75	Circolare	0.003	61.200	10.000	0.000	10946.15
PES5 90	Circolare	0.004	73.600	10.000	0.000	4978.41
Lunghezza totale (m)						24996.79

RIASSUNTO PER CONDOTTO -----

Gruppo	Lungh. gruppo
PES5 110	4461.7961
PES5 125	3285.4698
PES5 160	1200.6641
PES5 200	124.3032
PES5 75	10946.1460
PES5 90	4978.4130
Lungh. totale:	24996.7922

DATI DEI NODI -----

Nodo	Quota s.l.m. (m)	Pressione (mBar)	Portata (Smc/h)
1	0.00	0.00	0.00
10	0.00	0.00	0.00
100	0.00	0.00	0.00
101	0.00	0.00	0.00
102	0.00	0.00	0.00

103	0.00	0.00	0.00
104	0.00	0.00	0.00
105	0.00	0.00	0.00
106	0.00	0.00	0.00
107	0.00	0.00	0.00
108	0.00	0.00	0.00
109	0.00	0.00	0.00
11	0.00	0.00	0.00
110	0.00	0.00	0.00
111	0.00	0.00	0.00
112	0.00	0.00	0.00
113	0.00	0.00	0.00
114	0.00	0.00	0.00
115	0.00	0.00	0.00
116	0.00	0.00	0.00
117	0.00	0.00	0.00
118	0.00	0.00	0.00
119	0.00	0.00	0.00
12	0.00	0.00	0.00
120	0.00	0.00	0.00
121	0.00	0.00	0.00
122	0.00	0.00	0.00
123	0.00	0.00	0.00
124	0.00	0.00	0.00
125	0.00	0.00	0.00
126	0.00	0.00	0.00
127	0.00	0.00	0.00
128	0.00	0.00	0.00
129	0.00	0.00	0.00
13	0.00	0.00	0.00
130	0.00	0.00	0.00
131	0.00	0.00	0.00
132	0.00	0.00	0.00
133	0.00	0.00	0.00
134	0.00	0.00	0.00
135	0.00	0.00	0.00
136	0.00	0.00	0.00
137	0.00	0.00	0.00
138	0.00	0.00	0.00
139	0.00	0.00	0.00
14	0.00	0.00	0.00
140	0.00	0.00	0.00
141	0.00	0.00	0.00
142	0.00	0.00	0.00
143	0.00	0.00	0.00
144	0.00	0.00	0.00
145	0.00	0.00	0.00
146	0.00	0.00	0.00
147	0.00	0.00	0.00
148	0.00	0.00	0.00
149	0.00	0.00	0.00
15	0.00	0.00	0.00
150	0.00	0.00	0.00
151	0.00	0.00	0.00
152	0.00	0.00	0.00
153	0.00	0.00	0.00
154	0.00	0.00	0.00
155	0.00	0.00	0.00
156	0.00	0.00	0.00
157	0.00	0.00	0.00
158	0.00	0.00	0.00
159	0.00	0.00	0.00
16	0.00	0.00	0.00

160	0.00	0.00	0.00
161	0.00	0.00	0.00
162	0.00	0.00	0.00
163	0.00	500.00	0.00
164	0.00	0.00	0.00
165	0.00	0.00	0.00
166	0.00	0.00	0.00
167	0.00	0.00	0.00
168	0.00	0.00	0.00
169	0.00	0.00	0.00
17	0.00	0.00	0.00
170	0.00	0.00	0.00
171	0.00	0.00	0.00
172	0.00	0.00	0.00
173	0.00	0.00	0.00
174	0.00	0.00	0.00
175	0.00	0.00	0.00
176	0.00	0.00	0.00
177	0.00	0.00	0.00
178	0.00	0.00	0.00
179	0.00	0.00	0.00
18	0.00	0.00	0.00
180	0.00	0.00	0.00
181	0.00	0.00	0.00
182	0.00	0.00	0.00
183	0.00	0.00	0.00
184	0.00	0.00	0.00
185	0.00	0.00	0.00
186	0.00	0.00	0.00
187	0.00	0.00	0.00
188	0.00	0.00	0.00
189	0.00	0.00	0.00
19	0.00	0.00	0.00
190	0.00	0.00	0.00
191	0.00	0.00	0.00
192	0.00	0.00	0.00
193	0.00	0.00	0.00
194	0.00	0.00	0.00
195	0.00	0.00	0.00
196	0.00	0.00	0.00
197	0.00	0.00	0.00
198	0.00	0.00	0.00
199	0.00	0.00	0.00
2	0.00	0.00	0.00
20	0.00	0.00	0.00
200	0.00	0.00	0.00
201	0.00	0.00	0.00
202	0.00	0.00	0.00
203	0.00	0.00	0.00
204	0.00	0.00	0.00
205	0.00	0.00	0.00
206	0.00	0.00	0.00
207	0.00	0.00	0.00
208	0.00	0.00	0.00
209	0.00	0.00	0.00
21	0.00	0.00	0.00
210	0.00	0.00	0.00
211	0.00	0.00	0.00
212	0.00	0.00	0.00
213	0.00	0.00	0.00
214	0.00	0.00	0.00
215	0.00	0.00	0.00
216	0.00	0.00	0.00

217	0.00	0.00	0.00
218	0.00	0.00	0.00
219	0.00	0.00	0.00
22	0.00	0.00	0.00
220	0.00	0.00	0.00
221	0.00	0.00	0.00
222	0.00	0.00	0.00
223	0.00	0.00	0.00
224	0.00	0.00	0.00
225	0.00	0.00	0.00
226	0.00	0.00	0.00
227	0.00	0.00	0.00
228	0.00	0.00	0.00
229	0.00	0.00	0.00
23	0.00	0.00	0.00
230	0.00	0.00	0.00
231	0.00	0.00	0.00
232	0.00	0.00	0.00
233	0.00	0.00	0.00
234	0.00	0.00	0.00
235	0.00	0.00	0.00
236	0.00	0.00	0.00
237	0.00	0.00	0.00
24	0.00	0.00	0.00
25	0.00	0.00	0.00
26	0.00	0.00	0.00
27	0.00	0.00	0.00
28	0.00	0.00	0.00
29	0.00	0.00	0.00
3	0.00	0.00	0.00
30	0.00	0.00	0.00
31	0.00	0.00	0.00
32	0.00	0.00	0.00
33	0.00	0.00	0.00
34	0.00	0.00	0.00
35	0.00	0.00	0.00
36	0.00	0.00	0.00
37	0.00	0.00	0.00
38	0.00	0.00	0.00
39	0.00	0.00	0.00
4	0.00	0.00	0.00
40	0.00	0.00	0.00
41	0.00	0.00	0.00
42	0.00	0.00	0.00
43	0.00	0.00	0.00
44	0.00	0.00	0.00
45	0.00	0.00	0.00
46	0.00	0.00	0.00
47	0.00	0.00	0.00
48	0.00	0.00	0.00
49	0.00	0.00	0.00
5	0.00	0.00	0.00
50	0.00	0.00	0.00
51	0.00	0.00	0.00
52	0.00	0.00	0.00
53	0.00	0.00	0.00
54	0.00	0.00	0.00
55	0.00	0.00	0.00
56	0.00	0.00	0.00
57	0.00	0.00	0.00
58	0.00	0.00	0.00
59	0.00	0.00	0.00
6	0.00	0.00	0.00

60	0.00	0.00	0.00
61	0.00	0.00	0.00
62	0.00	0.00	0.00
63	0.00	0.00	0.00
64	0.00	0.00	0.00
65	0.00	0.00	0.00
66	0.00	0.00	0.00
67	0.00	0.00	0.00
68	0.00	0.00	0.00
69	0.00	0.00	0.00
7	0.00	0.00	0.00
70	0.00	0.00	0.00
71	0.00	0.00	0.00
72	0.00	0.00	0.00
73	0.00	0.00	0.00
74	0.00	0.00	0.00
75	0.00	0.00	0.00
76	0.00	0.00	0.00
77	0.00	0.00	0.00
78	0.00	0.00	0.00
79	0.00	0.00	0.00
8	0.00	0.00	0.00
80	0.00	0.00	0.00
81	0.00	0.00	0.00
82	0.00	0.00	0.00
83	0.00	0.00	0.00
84	0.00	0.00	0.00
85	0.00	0.00	0.00
86	0.00	0.00	0.00
87	0.00	0.00	0.00
88	0.00	0.00	0.00
89	0.00	0.00	0.00
9	0.00	0.00	0.00
90	0.00	0.00	0.00
91	0.00	0.00	0.00
92	0.00	0.00	0.00
93	0.00	0.00	0.00
94	0.00	0.00	0.00
95	0.00	0.00	0.00
96	0.00	0.00	0.00
97	0.00	0.00	0.00
98	0.00	0.00	0.00
99	0.00	0.00	0.00

DATI DEI RAMI -----

Ramo	Nodo iniziale	Nodo finale	Materiale	Lunghezza (m)	Portata (Smc/h)
1	1	2	PES5 90	23.98	2.02
10	17	18	PES5 110	123.95	10.45
100	123	122	PES5 75	145.66	12.28
101	124	125	PES5 125	156.44	13.19
102	126	124	PES5 125	173.15	14.60
103	92	90	PES5 75	7.98	0.67
104	127	92	PES5 90	61.82	5.21
105	128	127	PES5 90	53.11	4.48
106	96	128	PES5 90	48.99	4.13
107	126	96	PES5 125	18.82	1.59
108	129	126	PES5 125	61.06	5.15
109	130	131	PES5 75	273.97	23.10
11	19	20	PES5 75	93.01	7.84
110	132	133	PES5 75	144.74	12.20

111	134	135	PES5 75	111.15	9.37
112	136	134	PES5 125	110.35	9.30
113	137	136	PES5 125	96.35	8.12
114	138	137	PES5 75	61.65	5.20
115	120	138	PES5 75	62.20	5.24
116	139	120	PES5 75	142.07	11.98
117	138	140	PES5 75	99.06	8.35
118	141	138	PES5 75	97.07	8.19
119	142	141	PES5 75	117.89	9.94
12	21	22	PES5 75	57.96	4.89
120	143	142	PES5 75	123.46	10.41
121	144	145	PES5 75	88.67	7.48
122	146	147	PES5 75	102.93	8.68
123	148	146	PES5 75	95.69	8.07
124	113	148	PES5 75	54.82	4.62
125	112	113	PES5 90	98.72	8.32
126	146	112	PES5 75	55.22	4.66
127	136	146	PES5 75	60.16	5.07
128	141	136	PES5 75	63.26	5.33
129	121	141	PES5 75	61.99	5.23
13	23	24	PES5 75	53.23	4.49
130	149	121	PES5 75	160.03	13.49
131	149	150	PES5 160	24.71	2.08
132	122	149	PES5 160	39.56	3.34
133	142	122	PES5 160	63.34	5.34
134	134	142	PES5 160	61.93	5.22
135	147	134	PES5 160	62.44	5.27
136	144	147	PES5 160	28.57	2.41
137	111	144	PES5 160	26.21	2.21
138	109	111	PES5 160	14.71	1.24
139	99	109	PES5 125	170.14	14.35
14	25	26	PES5 75	93.79	7.91
140	108	38	PES5 110	162.10	13.67
141	36	108	PES5 125	23.97	2.02
142	145	36	PES5 125	14.45	1.22
143	132	145	PES5 125	41.90	3.53
144	135	132	PES5 125	33.13	2.79
145	130	135	PES5 125	38.67	3.26
146	143	130	PES5 125	14.55	1.23
147	125	143	PES5 125	54.08	4.56
148	123	125	PES5 110	7.46	0.63
149	151	123	PES5 110	61.62	5.20
15	27	25	PES5 75	23.16	1.95
150	70	151	PES5 110	64.90	5.47
151	71	70	PES5 110	4.82	0.41
152	152	71	PES5 110	61.71	5.20
153	65	152	PES5 110	106.49	8.98
154	153	154	PES5 90	74.29	6.26
155	27	153	PES5 90	15.42	1.30
156	68	27	PES5 90	26.55	2.24
157	74	68	PES5 90	5.51	0.46
158	152	74	PES5 90	97.77	8.24
159	66	152	PES5 75	120.47	10.16
16	7	237	PES5 75	63.32	5.34
160	72	66	PES5 125	75.14	6.34
161	129	72	PES5 125	45.88	3.87
162	155	129	PES5 90	133.87	11.29
163	151	155	PES5 90	137.17	11.57
164	73	151	PES5 75	56.42	4.76
165	150	73	PES5 75	117.60	9.92
166	156	157	PES5 75	61.08	5.15
167	158	156	PES5 75	62.49	5.27
168	158	159	PES5 75	10.40	0.88

169	154	158	PES5 75	100.69	8.49
17	29	30	PES5 110	80.15	6.76
170	154	160	PES5 160	61.80	5.21
171	161	154	PES5 160	55.99	4.72
172	76	161	PES5 160	38.36	3.23
173	162	76	PES5 160	66.32	5.59
174	64	163	PES5 160	52.63	4.44
175	162	64	PES5 160	11.90	1.00
176	78	162	PES5 110	96.23	8.11
177	164	78	PES5 110	110.50	9.32
178	165	164	PES5 110	39.75	3.35
179	159	166	PES5 75	83.06	7.00
18	31	32	PES5 75	115.17	9.71
180	75	159	PES5 75	45.95	3.87
181	164	75	PES5 75	45.38	3.83
182	82	164	PES5 75	68.66	5.79
183	167	82	PES5 75	56.03	4.73
184	34	168	PES5 110	253.59	21.38
185	169	34	PES5 110	101.87	8.59
186	170	169	PES5 110	187.13	15.78
187	19	171	PES5 90	135.85	11.46
188	172	19	PES5 90	76.52	6.45
189	172	173	PES5 75	117.26	9.89
19	33	31	PES5 75	36.78	3.10
190	174	172	PES5 90	16.31	1.38
191	175	174	PES5 90	174.64	14.73
192	176	177	PES5 90	79.34	6.69
193	178	179	PES5 90	105.49	8.90
194	180	181	PES5 90	163.14	13.76
195	182	180	PES5 90	46.87	3.95
196	182	183	PES5 75	57.24	4.83
197	182	184	PES5 90	82.04	6.92
198	1	182	PES5 75	102.54	8.65
199	185	186	PES5 75	8.47	0.71
2	3	4	PES5 90	8.48	0.71
20	34	33	PES5 75	91.45	7.71
200	185	187	PES5 75	120.83	10.19
201	188	185	PES5 75	140.15	11.82
202	163	188	PES5 75	91.09	7.68
203	189	163	PES5 160	119.94	10.11
204	190	191	PES5 110	148.63	12.53
205	192	193	PES5 75	55.95	4.72
206	192	194	PES5 75	96.88	8.17
207	194	195	PES5 75	71.72	6.05
208	89	196	PES5 75	51.73	4.36
209	191	89	PES5 110	64.10	5.41
21	15	29	PES5 110	91.78	7.74
210	197	191	PES5 75	25.01	2.11
211	198	197	PES5 75	101.58	8.57
212	199	198	PES5 75	70.51	5.95
213	200	201	PES5 110	14.56	1.23
214	187	200	PES5 110	110.00	9.28
215	202	2	PES5 110	91.16	7.69
216	187	202	PES5 110	20.67	1.74
217	203	187	PES5 75	137.74	11.62
218	88	204	PES5 90	156.02	13.16
219	178	88	PES5 75	105.91	8.93
22	35	15	PES5 110	73.79	6.22
220	205	178	PES5 90	37.75	3.18
221	181	205	PES5 90	53.46	4.51
222	204	181	PES5 90	60.92	5.14
223	203	204	PES5 90	34.77	2.93
224	201	203	PES5 90	92.80	7.83

225	199	201	PES5 110	61.01	5.14
226	206	199	PES5 110	17.51	1.48
227	190	207	PES5 75	90.92	7.67
228	208	209	PES5 75	76.20	6.43
229	177	210	PES5 90	6.09	0.51
23	35	6	PES5 125	19.97	1.68
230	211	177	PES5 75	62.16	5.24
231	211	212	PES5 75	44.10	3.72
232	176	211	PES5 75	55.20	4.65
233	57	176	PES5 90	60.06	5.06
234	60	57	PES5 90	115.73	9.76
235	213	60	PES5 75	117.83	9.94
236	214	213	PES5 75	59.68	5.03
237	215	214	PES5 125	49.63	4.19
238	189	216	PES5 160	44.34	3.74
239	188	189	PES5 75	117.76	9.93
24	17	35	PES5 110	120.58	10.17
240	206	188	PES5 75	131.05	11.05
241	207	206	PES5 110	25.00	2.11
242	217	207	PES5 110	85.48	7.21
243	216	217	PES5 160	140.05	11.81
244	218	210	PES5 75	124.35	10.49
245	217	218	PES5 75	32.48	2.74
246	190	217	PES5 160	84.30	7.11
247	208	190	PES5 160	57.62	4.86
248	193	208	PES5 160	8.88	0.75
249	40	193	PES5 160	74.92	6.32
25	36	37	PES5 75	138.46	11.68
250	219	40	PES5 110	71.07	5.99
251	43	219	PES5 110	122.38	10.32
252	210	43	PES5 110	73.59	6.21
253	216	210	PES5 110	82.75	6.98
254	212	216	PES5 90	104.61	8.82
255	213	212	PES5 90	127.01	10.71
256	3	213	PES5 90	95.82	8.08
257	220	221	PES5 75	62.51	5.27
258	222	223	PES5 75	133.73	11.28
259	222	224	PES5 110	40.68	3.43
26	38	39	PES5 110	127.17	10.72
260	165	222	PES5 110	59.56	5.02
261	166	165	PES5 75	44.05	3.71
262	220	166	PES5 75	61.71	5.20
263	156	220	PES5 75	92.88	7.83
264	160	156	PES5 75	101.92	8.59
265	150	160	PES5 160	62.14	5.24
266	157	150	PES5 110	103.88	8.76
267	221	157	PES5 110	91.40	7.71
268	139	221	PES5 110	27.53	2.32
269	223	139	PES5 110	22.25	1.88
27	40	41	PES5 200	59.01	4.98
270	225	223	PES5 110	40.93	3.45
271	226	225	PES5 75	81.52	6.87
272	225	227	PES5 75	105.33	8.88
273	13	225	PES5 90	58.29	4.92
274	11	13	PES5 90	56.08	4.73
275	119	11	PES5 90	56.53	4.77
276	140	119	PES5 90	62.35	5.26
277	228	140	PES5 90	61.59	5.19
278	228	229	PES5 125	100.32	8.46
279	228	114	PES5 75	60.44	5.10
28	42	43	PES5 90	91.79	7.74
280	137	228	PES5 125	105.70	8.91
281	148	137	PES5 75	62.20	5.25

282	114	148	PES5 75	106.54	8.98
283	230	114	PES5 75	102.41	8.64
284	229	230	PES5 75	63.01	5.31
285	118	229	PES5 125	196.47	16.57
286	116	118	PES5 125	82.02	6.92
287	10	116	PES5 125	25.11	2.12
288	23	10	PES5 125	35.76	3.02
289	12	23	PES5 125	22.52	1.90
29	44	42	PES5 90	190.22	16.04
290	21	12	PES5 125	37.94	3.20
291	14	21	PES5 125	17.47	1.47
292	226	14	PES5 125	59.79	5.04
293	170	226	PES5 125	40.11	3.38
294	171	170	PES5 125	51.32	4.33
295	227	171	PES5 125	19.19	1.62
296	224	227	PES5 125	25.03	2.11
297	20	224	PES5 125	118.66	10.01
298	167	20	PES5 125	24.46	2.06
299	83	167	PES5 125	22.56	1.90
3	5	6	PES5 125	16.46	1.39
30	45	46	PES5 75	82.12	6.92
300	173	83	PES5 125	34.00	2.87
301	175	173	PES5 125	51.57	4.35
303	231	215	PES5 75	109.51	9.23
304	8	231	PES5 75	93.38	7.87
305	232	94	PES5 90	37.60	3.17
306	184	232	PES5 90	140.54	11.85
307	1	184	PES5 90	97.11	8.19
308	186	2	PES5 110	183.80	15.50
309	163	186	PES5 110	173.02	14.59
31	47	48	PES5 75	137.88	11.63
310	233	163	PES5 125	92.08	7.76
311	214	233	PES5 125	191.22	16.12
312	4	214	PES5 125	92.35	7.79
313	18	234	PES5 110	124.55	10.50
314	30	235	PES5 110	108.70	9.17
315	41	236	PES5 200	65.29	5.51
316	237	28	PES5 75	50.08	4.22
317	215	175	PES5 125	21.89	0.00
32	49	50	PES5 75	124.64	10.51
33	49	51	PES5 90	159.91	13.48
34	47	49	PES5 90	50.56	4.26
35	45	47	PES5 90	53.09	4.48
36	52	45	PES5 90	57.44	4.84
37	52	53	PES5 75	59.29	5.00
38	54	55	PES5 75	81.19	6.85
39	56	54	PES5 75	64.06	5.40
4	7	5	PES5 125	55.43	4.67
40	44	56	PES5 75	20.63	1.74
41	57	44	PES5 90	44.14	3.72
42	3	58	PES5 75	158.04	13.33
43	8	4	PES5 125	28.29	2.39
44	28	5	PES5 110	19.63	1.66
45	51	28	PES5 110	70.03	5.91
46	50	51	PES5 90	44.77	3.78
47	48	50	PES5 90	21.02	1.77
48	59	48	PES5 90	60.43	5.10
49	58	59	PES5 90	55.80	4.71
5	8	7	PES5 125	32.79	2.76
50	60	58	PES5 90	61.80	5.21
51	61	62	PES5 75	75.68	6.38
52	61	63	PES5 125	40.96	3.45
53	64	61	PES5 125	134.66	11.35

54	65	66	PES5 125	82.78	6.98
55	63	65	PES5 125	149.58	12.61
56	67	63	PES5 75	65.57	5.53
57	68	67	PES5 75	93.32	7.87
58	69	70	PES5 75	75.64	6.38
59	71	72	PES5 75	217.83	18.37
6	9	10	PES5 75	57.82	4.88
60	69	73	PES5 75	62.87	5.30
61	74	69	PES5 75	60.35	5.09
62	75	76	PES5 75	160.26	13.51
63	77	78	PES5 75	52.20	4.40
64	79	80	PES5 75	111.93	9.44
65	77	81	PES5 75	74.67	6.30
66	82	77	PES5 75	135.32	11.41
67	81	83	PES5 75	122.07	10.29
68	79	81	PES5 75	16.30	1.37
69	84	85	PES5 75	92.10	7.77
7	11	12	PES5 75	97.69	8.24
70	86	84	PES5 75	6.18	0.52
71	87	88	PES5 90	87.15	7.35
72	89	87	PES5 110	115.08	9.70
73	90	91	PES5 75	72.12	6.08
74	92	93	PES5 75	84.72	7.14
75	94	95	PES5 90	166.29	14.02
76	96	97	PES5 75	124.46	10.49
77	96	94	PES5 110	33.87	2.86
78	39	98	PES5 110	121.40	10.24
79	99	39	PES5 110	104.82	8.84
8	13	14	PES5 75	88.64	7.47
80	100	99	PES5 110	157.16	13.25
81	101	102	PES5 75	87.87	7.41
82	101	103	PES5 90	66.74	5.63
83	104	101	PES5 75	46.61	3.93
84	100	105	PES5 75	74.95	6.32
85	103	100	PES5 90	62.28	5.25
86	104	106	PES5 75	82.35	6.94
87	107	104	PES5 75	111.26	9.38
88	108	109	PES5 125	79.36	6.69
89	110	111	PES5 90	69.18	5.83
9	15	16	PES5 75	62.88	5.30
90	110	112	PES5 90	33.92	2.86
91	105	110	PES5 75	222.18	18.74
92	86	113	PES5 90	104.01	8.77
93	114	86	PES5 75	56.51	4.76
94	115	116	PES5 75	99.18	8.36
95	117	118	PES5 75	49.93	4.21
96	119	9	PES5 75	55.07	4.64
97	120	119	PES5 90	95.76	8.08
98	121	120	PES5 90	95.98	8.09
99	122	121	PES5 90	125.10	10.55

RISULTATI DEI NODI -----

Nodo	Pressione (mBar)	Portata entr. (Smc/h)
1	491.04	0.00
10	482.12	0.00
100	480.76	0.00
101	480.18	0.00
102	480.15	-0.00
103	480.44	0.00
104	480.00	0.00

105	480.77	-0.00
106	479.97	-0.00
107	479.94	-0.00
108	481.69	0.00
109	481.69	-0.00
11	482.31	0.00
110	481.47	0.00
111	481.70	0.00
112	481.47	-0.00
113	481.46	0.00
114	481.53	-0.00
115	482.01	-0.00
116	482.05	0.00
117	481.91	0.00
118	481.92	0.00
119	482.11	0.00
12	482.32	0.00
120	482.18	0.00
121	482.35	0.00
122	482.96	0.00
123	482.94	-0.00
124	483.21	0.00
125	482.88	-0.00
126	483.76	-0.00
127	483.52	0.00
128	483.64	0.00
129	483.85	0.00
13	482.62	0.00
130	482.26	0.00
131	481.65	-0.00
132	481.90	0.00
133	481.79	0.00
134	482.03	0.00
135	482.05	-0.00
136	481.85	0.00
137	481.77	0.00
138	481.91	0.00
139	483.36	0.00
14	482.59	0.00
140	481.89	-0.00
141	482.02	0.00
142	482.42	0.00
143	482.39	-0.00
144	481.76	0.00
145	481.77	-0.00
146	481.60	0.00
147	481.83	0.00
148	481.54	0.00
149	483.45	0.00
15	486.16	0.00
150	483.82	0.00
151	483.50	-0.00
152	484.43	-0.00
153	485.37	0.00
154	486.32	0.00
155	483.58	0.00
156	484.43	0.00
157	483.76	0.00
158	485.22	-0.00
159	485.23	0.00
16	486.15	0.00
160	484.98	0.00
161	488.20	0.00

162	492.31	0.00
163	500.00	2105.96
164	485.76	0.00
165	485.11	0.00
166	484.89	-0.00
167	485.38	-0.00
168	481.84	0.00
169	482.23	0.00
17	486.14	0.00
170	483.10	0.00
171	483.81	-0.00
172	485.33	-0.00
173	485.83	0.00
174	485.39	-0.00
175	486.42	0.00
176	491.30	-0.00
177	492.27	0.00
178	490.61	-0.00
179	490.59	-0.00
18	486.08	0.00
180	489.98	0.00
181	490.61	0.00
182	489.88	-0.00
183	489.87	0.00
184	489.35	-0.00
185	494.68	-0.00
186	494.80	0.00
187	492.05	0.00
188	495.44	0.00
189	495.69	0.00
19	484.83	-0.00
190	492.59	0.00
191	491.93	0.00
192	492.33	0.00
193	492.51	0.00
194	492.19	0.00
195	492.17	0.00
196	491.67	0.00
197	491.94	0.00
198	492.11	0.00
199	492.37	0.00
2	492.00	-0.00
20	485.13	0.00
200	492.06	-0.00
201	492.06	0.00
202	492.04	0.00
203	491.38	-0.00
204	491.02	-0.00
205	490.61	0.00
206	492.53	0.00
207	492.60	-0.00
208	492.52	0.00
209	492.50	0.00
21	482.49	0.00
210	492.46	0.00
211	491.52	0.00
212	491.46	0.00
213	488.20	0.00
214	487.88	0.00
215	486.85	0.00
216	494.23	0.00
217	492.94	0.00
218	492.78	0.00

219	492.38	0.00
22	482.48	0.00
220	484.26	0.00
221	483.53	0.00
222	484.48	0.00
223	483.33	0.00
224	484.31	-0.00
225	483.17	0.00
226	482.92	-0.00
227	483.97	0.00
228	481.76	0.00
229	481.76	-0.00
23	482.23	0.00
230	481.61	0.00
231	486.87	-0.00
232	485.03	0.00
233	495.87	0.00
234	486.07	-0.00
235	486.06	0.00
236	492.47	0.00
237	486.49	0.00
24	482.23	0.00
25	485.17	0.00
26	485.14	-0.00
27	485.20	0.00
28	486.39	0.00
29	486.10	0.00
3	487.34	0.00
30	486.07	-0.00
31	481.55	-0.00
32	481.49	0.00
33	481.61	0.00
34	481.92	0.00
35	486.28	0.00
36	481.73	-0.00
37	481.63	0.00
38	481.36	0.00
39	481.24	0.00
4	487.29	-0.00
40	492.47	0.00
41	492.47	-0.00
42	491.45	0.00
43	492.28	-0.00
44	490.36	0.00
45	485.91	0.00
46	485.89	-0.00
47	486.01	0.00
48	486.36	0.00
49	486.06	0.00
5	486.40	0.00
50	486.31	-0.00
51	486.31	0.00
52	485.89	-0.00
53	485.89	0.00
54	490.24	0.00
55	490.21	-0.00
56	490.32	0.00
57	490.32	-0.00
58	487.35	-0.00
59	486.83	0.00
6	486.35	0.00
60	488.20	-0.00
61	488.85	0.00

62	488.83	0.00
63	487.64	0.00
64	493.22	0.00
65	484.97	0.00
66	484.43	0.00
67	486.37	0.00
68	485.00	-0.00
69	484.02	0.00
7	486.71	0.00
70	483.93	-0.00
71	483.96	0.00
72	484.02	0.00
73	483.72	0.00
74	484.88	0.00
75	485.79	0.00
76	489.51	0.00
77	486.38	0.00
78	488.05	0.00
79	485.72	0.00
8	486.99	0.00
80	485.66	-0.00
81	485.74	0.00
82	485.66	0.00
83	485.57	0.00
84	481.43	0.00
85	481.40	-0.00
86	481.44	-0.00
87	491.40	0.00
88	491.02	0.00
89	491.68	0.00
9	482.10	-0.00
90	483.44	-0.00
91	483.42	0.00
92	483.44	0.00
93	483.41	-0.00
94	484.02	-0.00
95	483.95	0.00
96	483.78	0.00
97	483.70	0.00
98	481.23	-0.00
99	481.23	0.00

RISULTATI DEI RAMI -----

Ramo	Portate di ramo (Smc/h)			Pressione min. (mBar)	Velocita' max in modulo (m/s)
	Ingresso	Uscita	Distrib.		
1	-114.46	-116.49	2.02	491.0423	5.0384
10	20.96	10.50	10.45	486.0830	0.6085
100	4.61	-7.67	12.28	482.9311	0.4829
101	58.96	45.77	13.19	482.8808	1.3303
102	73.56	58.96	14.60	483.2096	1.6592
103	6.75	6.08	0.67	483.4354	0.4249
104	19.11	13.90	5.21	483.4405	0.8313
105	23.59	19.11	4.48	483.5242	1.0260
106	27.72	23.59	4.13	483.6357	1.2056
107	-33.51	-35.10	1.59	483.7577	0.7916
108	45.20	40.05	5.15	483.7577	1.0194
109	23.10	0.00	23.10	481.6512	1.4546
11	-12.44	-20.28	7.84	484.8320	1.2747
110	12.20	-0.00	12.20	481.7892	0.7686
111	3.01	-6.37	9.37	482.0301	0.4009

112	-41.78	-51.08	9.30	481.8453	1.1535
113	-24.61	-32.73	8.12	481.7739	0.7392
114	15.59	10.39	5.20	481.7739	0.9818
115	22.24	16.99	5.24	481.9067	1.4001
116	34.41	22.43	11.98	482.1774	2.1653
117	6.33	-2.02	8.35	481.8881	0.3989
118	13.12	4.93	8.19	481.9067	0.8261
119	21.71	11.77	9.94	482.0243	1.3670
12	4.89	-0.00	4.89	482.4848	0.3077
120	2.09	-8.32	10.41	482.3842	0.5240
121	3.11	-4.37	7.48	481.7585	0.2751
122	-8.93	-17.61	8.68	481.5954	1.1091
123	-1.82	-9.89	8.07	481.5357	0.6232
124	-8.06	-12.68	4.62	481.4550	0.7990
125	8.51	0.18	8.32	481.4550	0.3705
126	15.59	10.93	4.66	481.4725	0.9818
127	21.62	16.55	5.07	481.5954	1.3619
128	17.91	12.58	5.33	481.8453	1.1280
129	24.48	19.26	5.23	482.0243	1.5416
13	4.49	-0.00	4.49	482.2266	0.2826
130	32.01	18.52	13.49	482.3497	2.0141
131	-311.92	-314.01	2.08	483.4461	4.3238
132	-276.57	-279.91	3.34	482.9605	3.8553
133	-223.61	-228.95	5.34	482.4225	3.1545
134	-188.36	-193.58	5.22	482.0332	2.6680
135	-129.01	-134.27	5.27	481.8299	1.8511
136	-108.99	-111.40	2.41	481.7619	1.5359
137	-103.67	-105.88	2.21	481.7047	1.4599
138	-71.45	-72.69	1.24	481.6881	1.0023
139	-52.94	-67.28	14.35	481.2329	1.5197
14	7.91	0.00	7.91	485.1365	0.4970
140	42.68	29.01	13.67	481.3633	1.2430
141	47.22	45.20	2.02	481.6876	1.0666
142	60.12	58.90	1.22	481.7280	1.3578
143	68.02	64.49	3.53	481.7658	1.5361
144	83.02	80.22	2.79	481.8981	1.8746
145	92.64	89.38	3.26	482.0489	2.0917
146	116.97	115.75	1.23	482.2621	2.6408
147	123.62	119.06	4.56	482.3857	2.7900
148	78.48	77.85	0.63	482.8808	2.2840
149	88.29	83.09	5.20	482.9385	2.5684
15	9.86	7.91	1.95	485.1705	0.6197
150	74.34	68.87	5.47	483.4984	2.1620
151	68.53	68.13	0.41	483.9282	1.9931
152	80.70	75.50	5.20	483.9576	2.3461
153	66.06	57.08	8.98	484.4335	1.9197
154	-57.11	-63.37	6.26	485.3715	2.7514
155	-55.81	-57.11	1.30	485.1963	2.4810
156	-43.71	-45.95	2.24	484.9950	1.9963
157	-78.98	-79.45	0.46	484.8813	3.4524
158	-29.37	-37.62	8.24	484.4335	1.6348
159	4.41	-5.75	10.16	484.4198	0.3616
16	20.09	14.75	5.34	486.4905	1.2609
160	-86.85	-93.18	6.34	484.0207	2.1009
161	-71.57	-75.44	3.87	483.8471	1.7013
162	-15.09	-26.38	11.29	483.5753	1.1470
163	-3.52	-15.09	11.57	483.4984	0.6562
164	20.66	15.90	4.76	483.4984	1.2995
165	12.19	2.27	9.92	483.7156	0.7668
166	36.07	30.92	5.15	483.7556	2.2677
167	39.02	33.75	5.27	484.4263	2.4522
168	-9.93	-10.81	0.88	485.2191	0.6792
169	37.58	29.09	8.49	485.2191	2.3600

17	15.93	9.17	6.76	486.0697	0.4625
170	385.60	380.39	5.21	484.9763	5.3008
171	491.28	486.55	4.72	486.3178	6.7450
172	494.51	491.28	3.23	488.2012	6.7835
173	558.16	552.57	5.59	489.5091	7.6424
174	-1026.12	-1030.56	4.44	493.2211	14.0412
175	-771.55	-772.55	1.00	492.3098	10.5715
176	-205.28	-213.39	8.11	488.0523	6.1713
177	-131.97	-141.29	9.32	485.7639	4.0977
178	-118.78	-122.13	3.35	485.1053	3.5476
179	22.56	15.56	7.00	484.8892	1.4177
18	9.71	-0.00	9.71	481.4934	0.6118
180	37.24	33.37	3.87	485.2341	2.3395
181	-3.47	-7.30	3.83	485.7639	0.4586
182	-7.52	-13.31	5.79	485.6617	0.8361
183	-18.86	-23.59	4.73	485.3832	1.4819
184	21.38	-0.00	21.38	481.8372	0.6227
185	50.50	41.91	8.59	481.9178	1.4702
186	66.28	50.50	15.78	482.2321	1.9285
187	50.22	38.76	11.46	483.8101	2.1824
188	44.23	37.77	6.45	484.8320	1.9215
189	-14.31	-24.20	9.89	485.3292	1.5202
19	12.81	9.71	3.10	481.5523	0.8071
190	31.29	29.91	1.38	485.3292	1.3593
191	46.02	31.29	14.73	485.3928	1.9977
192	-55.62	-62.31	6.69	491.3005	2.6948
193	8.90	0.00	8.90	490.5899	0.3851
194	-23.28	-37.04	13.76	489.9798	1.6035
195	-19.33	-23.28	3.95	489.8823	1.0083
196	4.83	-0.00	4.83	489.8743	0.3024
197	44.27	37.35	6.92	489.3549	1.9176
198	38.42	29.77	8.65	489.8823	2.4048
199	-38.41	-39.12	0.71	494.6771	2.4428
2	39.24	38.53	0.71	487.2928	1.7027
20	20.52	12.81	7.71	481.6141	1.2926
200	54.67	44.48	10.19	492.0499	3.4139
201	28.08	16.26	11.82	494.6771	1.7526
202	83.54	75.86	7.68	495.4362	5.1984
203	-504.13	-514.25	10.11	495.6891	7.0054
204	63.61	51.08	12.53	491.9296	1.8393
205	-14.22	-18.93	4.72	492.3311	1.1841
206	14.22	6.05	8.17	492.1908	0.8892
207	6.05	-0.00	6.05	492.1743	0.3783
208	4.36	-0.00	4.36	491.6750	0.2729
209	55.55	50.15	5.41	491.6816	1.6070
21	23.66	15.93	7.74	486.0963	0.6872
210	6.58	4.48	2.11	491.9296	0.4119
211	15.15	6.58	8.57	491.9422	0.9477
212	21.10	15.15	5.95	492.1076	1.3193
213	-10.05	-11.27	1.23	492.0603	0.3261
214	-0.77	-10.05	9.28	492.0499	0.2906
215	16.98	9.29	7.69	492.0049	0.4910
216	18.72	16.98	1.74	492.0376	0.5415
217	-14.92	-26.53	11.62	491.3832	1.6597
218	5.99	-7.17	13.16	491.0134	0.3103
219	-13.82	-22.75	8.93	490.6095	1.4240
22	35.19	28.97	6.22	486.1621	1.0218
220	-1.74	-4.92	3.18	490.6060	0.2131
221	2.77	-1.74	4.51	490.6055	0.1199
222	44.94	39.81	5.14	490.6068	1.9452
223	55.05	52.11	2.93	491.0242	2.3819
224	47.95	40.13	7.83	491.3832	2.0741
225	64.37	59.23	5.14	492.0639	1.8616

226	86.94	85.47	1.48	492.3742	2.5141
227	2.62	-5.05	7.67	492.5923	0.3155
228	6.43	-0.00	6.43	492.5017	0.4018
229	-100.38	-100.89	0.51	492.2703	4.3624
23	-66.31	-68.00	1.68	486.2826	1.5310
230	-32.82	-38.06	5.24	491.5208	2.3805
231	11.76	8.04	3.72	491.4615	0.7360
232	-16.40	-21.06	4.65	491.3005	1.3177
233	-66.96	-72.03	5.06	490.3199	3.1168
234	-69.31	-79.07	9.76	488.1951	3.4239
235	5.94	-4.00	9.94	488.1896	0.3725
236	-19.85	-24.88	5.03	487.8805	1.5605
237	-190.17	-194.36	4.19	486.8546	4.3718
238	486.37	482.63	3.74	494.2294	6.6444
239	-7.84	-17.77	9.93	495.4362	1.1088
24	-20.96	-31.12	10.17	486.1442	0.9037
240	-44.57	-55.62	11.05	492.5340	3.4713
241	44.49	42.38	2.11	492.5340	1.2863
242	56.74	49.53	7.21	492.6026	1.6402
243	243.98	232.17	11.81	492.9365	3.3363
244	19.48	8.99	10.49	492.4614	1.2178
245	22.22	19.48	2.74	492.7811	1.3889
246	-146.10	-153.21	7.11	492.5946	2.0969
247	-75.01	-79.87	4.86	492.5212	1.0934
248	-67.84	-68.59	0.75	492.5121	0.9390
249	-42.59	-48.91	6.32	492.4738	0.6695
25	11.68	-0.00	11.68	481.6313	0.7354
250	-26.11	-32.11	5.99	492.3761	0.9284
251	-15.79	-26.11	10.32	492.2791	0.7552
252	44.01	37.80	6.21	492.2791	1.2727
253	142.89	135.91	6.98	492.4614	4.1270
254	-86.94	-95.77	8.82	491.4615	4.1361
255	-84.28	-94.99	10.71	488.2048	4.1100
256	-45.38	-53.46	8.08	487.3429	2.3181
257	37.29	32.02	5.27	483.5287	2.3449
258	34.58	23.30	11.28	483.3283	2.1738
259	56.25	52.82	3.43	484.3097	1.6352
26	29.01	18.28	10.72	481.2387	0.8450
260	95.85	90.82	5.02	484.4767	2.7852
261	-19.22	-22.94	3.71	484.8892	1.4415
262	-29.58	-34.78	5.20	484.2575	2.1861
263	15.55	7.72	7.83	484.2575	0.9775
264	26.46	17.86	8.59	484.4263	1.6627
265	-348.69	-353.93	5.24	483.8201	4.8698
266	-13.74	-22.49	8.76	483.7556	0.6542
267	-36.95	-44.65	7.71	483.5287	1.2988
268	-66.65	-68.97	2.32	483.3631	2.0062
269	-30.35	-32.23	1.88	483.3283	0.9377
27	10.48	5.51	4.98	492.4732	0.0917
270	-50.20	-53.65	3.45	483.1739	1.5610
271	-12.78	-19.65	6.87	482.9166	1.2366
272	-22.59	-31.47	8.88	483.1739	1.9792
273	-48.22	-53.14	4.92	482.6248	2.3120
274	-35.09	-39.82	4.73	482.3132	1.7331
275	-27.14	-31.90	4.77	482.1055	1.3889
276	-25.89	-31.15	5.26	481.8896	1.3563
277	-18.68	-23.87	5.19	481.7608	1.0396
278	3.39	-5.07	8.46	481.7603	0.1144
279	20.55	15.45	5.10	481.5338	1.2942
28	-45.86	-53.60	7.74	491.4468	2.3179
280	14.17	5.26	8.91	481.7608	0.3201
281	-15.58	-20.82	5.25	481.5357	1.3115
282	4.26	-4.72	8.98	481.5275	0.2973

283	11.03	2.39	8.64	481.5338	0.6947
284	16.34	11.03	5.31	481.6130	1.0293
285	37.98	21.41	16.57	481.7614	0.8576
286	49.10	42.19	6.92	481.9187	1.1088
287	59.58	57.47	2.12	482.0542	1.3454
288	68.67	65.65	3.02	482.1180	1.5504
289	75.05	73.16	1.90	482.2336	1.6945
29	-29.82	-45.86	16.04	490.3645	1.9842
290	83.31	80.11	3.20	482.3201	1.8806
291	89.67	88.19	1.47	482.4931	2.0241
292	93.78	88.74	5.04	482.5855	2.1164
293	84.38	81.00	3.38	482.9166	1.9042
294	154.99	150.66	4.33	483.1033	3.4958
295	117.85	116.23	1.62	483.8101	2.6577
296	151.43	149.32	2.11	483.9748	3.4143
297	108.62	98.61	10.01	484.3097	2.4477
298	130.96	128.90	2.06	485.1308	2.9507
299	114.00	112.10	1.90	485.3832	2.5683
3	69.38	68.00	1.39	486.3470	1.5622
30	6.92	0.00	6.92	485.8904	0.4350
300	112.16	109.29	2.87	485.5651	2.5264
301	140.71	136.36	4.35	485.8293	3.1682
303	5.79	-3.45	9.23	486.8505	0.3634
304	13.66	5.79	7.87	486.8650	0.8576
305	93.36	90.19	3.17	484.0184	4.0569
306	105.21	93.36	11.85	485.0263	4.5588
307	76.05	67.86	8.19	489.3549	3.2914
308	122.70	107.20	15.50	492.0049	3.5425
309	176.41	161.82	14.59	494.7961	5.0758
31	-8.23	-19.85	11.63	486.0054	1.2465
310	-293.45	-301.21	7.76	495.8738	6.7212
311	-277.32	-293.45	16.12	487.8805	6.5658
312	-95.03	-102.82	7.79	487.2928	2.3128
313	10.50	0.00	10.50	486.0710	0.3050
314	9.17	-0.00	9.17	486.0614	0.2662
315	5.51	-0.00	5.51	492.4730	0.0482
316	14.75	10.52	4.22	486.3883	0.9259
317	186.73	186.73	0.00	486.4249	4.2042
32	-6.77	-17.28	10.51	486.0643	1.0849
33	-10.52	-24.00	13.48	486.0643	1.0420
34	-13.02	-17.28	4.26	486.0054	0.7505
35	-16.77	-21.24	4.48	485.9143	0.9226
36	-5.00	-9.84	4.84	485.8939	0.4275
37	5.00	-0.00	5.00	485.8852	0.3140
38	6.85	0.00	6.85	490.2149	0.4288
39	12.25	6.85	5.40	490.2379	0.7670
4	94.66	89.99	4.67	486.4022	2.1310
40	13.99	12.25	1.74	490.3200	0.8760
41	-12.11	-15.83	3.72	490.3199	0.6855
42	6.13	-7.19	13.33	487.3256	0.4513
43	-131.18	-133.56	2.39	486.9916	3.0055
44	-18.95	-20.61	1.66	486.3883	0.5983
45	-23.57	-29.47	5.91	486.3059	0.8558
46	4.21	0.43	3.78	486.3059	0.1826
47	23.26	21.48	1.77	486.3088	1.0097
48	48.20	43.11	5.10	486.3564	2.0922
49	52.91	48.20	4.71	486.8294	2.2956
5	117.51	114.75	2.76	486.7147	2.6449
50	65.31	60.10	5.21	487.3514	2.8322
51	6.38	-0.00	6.38	488.8278	0.4000
52	235.83	232.38	3.45	487.6440	5.3014
53	253.57	242.21	11.35	488.8470	5.6835
54	104.57	97.59	6.98	484.4265	2.3567

55	183.24	170.63	12.61	484.9747	4.1224
56	-43.61	-49.14	5.53	486.3735	3.0829
57	-35.74	-43.61	7.87	484.9950	2.7383
58	12.59	6.21	6.38	483.9282	0.7918
59	6.96	-11.41	18.37	483.9333	0.7174
6	-1.19	-6.07	4.88	482.1019	0.3821
60	23.69	18.38	5.30	483.7156	1.4896
61	41.37	36.28	5.09	484.0239	2.6000
62	-44.54	-58.06	13.51	485.7864	3.6380
63	-59.59	-63.99	4.40	486.3758	4.0135
64	9.44	0.00	9.44	485.6621	0.5929
65	32.11	25.81	6.30	485.7393	2.0162
66	-16.07	-27.48	11.41	485.6617	1.7254
67	15.00	4.71	10.29	485.5651	0.9422
68	-9.44	-10.81	1.37	485.7167	0.6793
69	7.77	0.00	7.77	481.4009	0.4892
7	3.19	-5.05	8.24	482.3097	0.3181
70	8.29	7.77	0.52	481.4334	0.5221
71	36.08	28.73	7.35	491.0203	1.5614
72	45.79	36.08	9.70	491.3953	1.3247
73	6.08	-0.00	6.08	483.4185	0.3826
74	7.14	0.00	7.14	483.4146	0.4494
75	14.02	-0.00	14.02	483.9519	0.6097
76	10.49	-0.00	10.49	483.7042	0.6601
77	-73.31	-76.17	2.86	483.7766	2.2150
78	10.24	0.00	10.24	481.2275	0.2982
79	0.79	-8.05	8.84	481.2329	0.2344
8	8.40	0.93	7.47	482.5855	0.5290
80	-38.89	-52.14	13.25	480.7584	1.5192
81	7.41	0.00	7.41	480.1478	0.4672
82	-27.67	-33.29	5.63	480.1765	1.4512
83	-16.33	-20.26	3.93	479.9968	1.2772
84	0.35	-5.97	6.32	480.7583	0.3766
85	-33.29	-38.55	5.25	480.4362	1.6798
86	6.94	0.00	6.94	479.9726	0.4379
87	-0.00	-9.38	9.38	479.9429	0.5916
88	2.53	-4.17	6.69	481.6873	0.0941
89	-25.14	-30.98	5.83	481.4715	1.3491
9	5.30	-0.00	5.30	486.1524	0.3330
90	0.44	-2.42	2.86	481.4715	0.1056
91	-5.97	-24.71	18.74	480.7744	1.5567
92	0.53	-8.24	8.77	481.4391	0.3590
93	13.58	8.82	4.76	481.4392	0.8555
94	-0.00	-8.36	8.36	482.0146	0.5267
95	0.00	-4.21	4.21	481.9126	0.2652
96	3.45	-1.19	4.64	482.1014	0.2173
97	15.54	7.46	8.08	482.1055	0.6765
98	23.43	15.34	8.09	482.1774	1.0201
99	39.95	29.40	10.55	482.3497	1.7383