

COMUNE DI SESTU
 VERIFICA E CALCOLO RETE METANO (P = 4.5 BAR)
 TABULATO DI CALCOLO ESEGUITO CON:

02302023IR17
 STATO DI PROGETTO

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

Numero di nodi		32
Numero di rami		31
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)	0.0027

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	2906.26
PES5 125	Circolare	0.008	102.200	10.000	0.000	6362.10
PES5 160	Circolare	0.013	130.800	10.000	0.000	1359.51
PES5 200	Circolare	0.021	163.600	10.000	0.000	900.70
Lunghezza totale (m)						11528.57

RIASSUNTO PER CONDOTTO -----

Gruppo	Lungh. gruppo
PES5 110	2906.2603
PES5 125	6362.1025
PES5 160	1359.5067
PES5 200	900.6993
Lungh. totale:	11528.5688

DATI DEI NODI -----

Nodo	Quota s.l.m. (m)	Pressione (mBar)	Portata (Smc/h)
1	0.00	0.00	-1298.00
10	0.00	0.00	0.00
11	0.00	0.00	-200.00
12	0.00	4500.00	0.00
13	0.00	0.00	0.00
14	0.00	0.00	-50.00
15	0.00	0.00	-100.00
16	0.00	0.00	-50.00
17	0.00	0.00	-100.00

18	0.00	0.00	0.00
19	0.00	0.00	0.00
2	0.00	0.00	0.00
20	0.00	0.00	-50.00
21	0.00	0.00	-100.00
22	0.00	0.00	-50.00
23	0.00	0.00	0.00
24	0.00	0.00	-50.00
25	0.00	0.00	0.00
26	0.00	0.00	-50.00
27	0.00	0.00	0.00
28	0.00	0.00	0.00
29	0.00	0.00	-50.00
3	0.00	0.00	0.00
30	0.00	0.00	-50.00
31	0.00	0.00	-50.00
32	0.00	0.00	-50.00
4	0.00	0.00	-1846.00
5	0.00	0.00	0.00
6	0.00	0.00	-1520.00
7	0.00	0.00	-100.00
8	0.00	0.00	0.00
9	0.00	0.00	0.00

DATI DEI RAMI -----

Ramo	Nodo iniziale	Nodo finale	Materiale	Lunghezza (m)	Portata (Smc/h)
1	1	2	PES5 110	563.50	0.00
10	10	11	PES5 125	28.58	0.00
11	12	10	PES5 200	42.63	0.00
12	13	14	PES5 110	182.18	0.00
13	15	13	PES5 110	104.24	0.00
14	15	16	PES5 125	714.70	0.00
15	17	18	PES5 125	130.89	0.00
16	17	15	PES5 125	191.80	0.00
17	19	18	PES5 125	318.98	0.00
18	19	20	PES5 110	145.99	0.00
19	21	19	PES5 125	274.02	0.00
2	2	3	PES5 125	665.82	0.00
20	22	21	PES5 110	155.69	0.00
21	23	21	PES5 125	547.35	0.00
22	23	24	PES5 110	258.58	0.00
23	25	26	PES5 110	251.25	0.00
24	27	23	PES5 125	507.85	0.00
25	25	27	PES5 125	404.24	0.00
26	28	25	PES5 125	1371.31	0.00
27	29	25	PES5 110	445.46	0.00
28	29	30	PES5 110	371.62	0.00
29	28	31	PES5 110	359.80	0.00
3	2	4	PES5 110	20.63	0.00
30	32	28	PES5 125	587.15	0.00
31	9	17	PES5 125	590.84	0.00
4	3	5	PES5 160	1224.13	0.00
5	3	6	PES5 110	18.73	0.00
6	5	7	PES5 110	28.58	0.00
7	5	8	PES5 160	135.38	0.00
8	8	9	PES5 125	28.58	0.00
9	8	10	PES5 200	858.07	0.00

RISULTATI DEI NODI -----

Nodo	Pressione (mBar)	Portata entr. (Smc/h)
1	2127.04	-1298.00
10	4487.73	0.00
11	4487.56	-200.00
12	4500.00	5763.99
13	4201.81	0.00
14	4201.62	-50.00
15	4201.91	-100.00
16	4201.52	-50.00
17	4203.14	-100.00
18	4198.79	-0.00
19	4188.19	0.00
2	2444.71	0.00
20	4188.04	-50.00
21	4180.64	-100.00
22	4180.49	-50.00
23	4173.39	0.00
24	4173.13	-50.00
25	4164.66	0.00
26	4164.40	-50.00
27	4168.53	0.00
28	4162.08	0.00
29	4163.12	-50.00
3	3335.38	0.00
30	4162.74	-50.00
31	4161.71	-50.00
32	4161.75	-50.00
4	2423.18	-1846.00
5	4164.31	0.00
6	3324.61	-1520.00
7	4164.21	-100.00
8	4251.37	-0.00
9	4249.15	-0.00

RISULTATI DEI RAMI

Ramo	Portate di ramo (Smc/h)			Pressione min. (mBar)	Velocita' max in modulo (m/s)
	Ingresso	Uscita	Distrib.		
1	-1298.00	-1298.00	0.00	2127.0354	17.9972
10	200.00	200.00	0.00	4487.5603	1.2277
11	5763.99	5763.99	0.00	4487.7333	13.8070
12	50.00	50.00	0.00	4201.6242	0.4175
13	50.00	50.00	0.00	4201.8087	0.4175
14	50.00	50.00	0.00	4201.5185	0.3238
15	500.00	500.00	0.00	4198.7920	3.2392
16	200.00	200.00	0.00	4201.9143	1.2949
17	-500.00	-500.00	0.00	4188.1852	3.2459
18	50.00	50.00	0.00	4188.0369	0.4186
19	-450.00	-450.00	0.00	4180.6450	2.9255
2	-3143.99	-3143.99	0.00	2444.7062	30.7004
20	-50.00	-50.00	0.00	4180.4866	0.4192
21	-300.00	-300.00	0.00	4173.3887	1.9531
22	50.00	50.00	0.00	4173.1253	0.4198
23	50.00	50.00	0.00	4164.4019	0.4205
24	-250.00	-250.00	0.00	4168.5294	1.6291
25	-250.00	-250.00	0.00	4164.6582	1.6303
26	-100.00	-100.00	0.00	4162.0805	0.6524
27	-100.00	-100.00	0.00	4163.1218	0.8411
28	50.00	50.00	0.00	4162.7426	0.4206

29	50.00	50.00	0.00	4161.7133	0.4207
3	1846.00	1846.00	0.00	2423.1846	23.3895
30	-50.00	-50.00	0.00	4161.7528	0.3262
31	800.00	800.00	0.00	4203.1381	5.1785
4	-4663.99	-4663.99	0.00	3335.3753	22.1093
5	1520.00	1520.00	0.00	3324.6053	15.2569
6	100.00	100.00	0.00	4164.2119	0.8410
7	-4763.99	-4763.99	0.00	4164.3105	18.9677
8	800.00	800.00	0.00	4249.1510	5.1332
9	-5563.99	-5563.99	0.00	4251.3668	13.9263