

P1= 0.01 Pa

P1=

z3= 0.01 m

gamma= 9.81E-03 N/m3

nu= 1.52E-06 m2/s

e= 4.60E-05 m

g= 9.81E+03 N/m2

D1= 0.0525 m

D2= 0.0409 m

Kteev1= 2.00E+01

Kteev2= 60

Kelbow= 20

Kballvalve= 150

Ksud con= 0.25

Q1= 0.004101 m3/s

Q2= m3/s

L1= 274.32 m

L2= 457.2 m

A1= 1.31E-03 m2

A2= 2.17E-03 m2

V1=

V2=

problem 1

						Assume
Iteration	Q1(m3/s)	Re1	(D/e)1	f1	fT1	P1
1	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	0.010000
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	0.069598
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	1.000000
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	1.059598
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	1.059013
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	1.118612
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	1.118027
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	1.177625
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	1.177040
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	1.236639
	0.004101	6.54E+04	1.14E+03	0.0230	0.0190	1.236054

3.12E+00

Assume				
P2	P2 (new)	%diff P2	P1 (new)	%diff P1
0.010000	9.42E-03	6.21%	6.96E-02	-85.63%
0.009415	6.90E-02	-86.36%	6.90E-02	0.85%
1.000000	9.99E-01	0.06%	1.06E+00	-5.62%
0.999415	1.06E+00	-5.63%	1.06E+00	0.06%
1.059013	1.06E+00	0.06%	1.12E+00	-5.33%
1.058429	1.12E+00	-5.33%	1.12E+00	0.05%
1.118027	1.12E+00	0.05%	1.18E+00	-5.06%
1.117442	1.18E+00	-5.06%	1.18E+00	0.05%
1.177040	1.18E+00	0.05%	1.24E+00	-4.82%
1.176456	1.24E+00	-4.82%	1.24E+00	0.05%
1.236054	1.24E+00	0.05%	1.30E+00	-4.60%

[illegible]

problem 2

				Assume	Assume			
Re1	(D/e)1	f1	fT1	P1a	P2a	P2a(new)	%diffP2a	P1a(new)
6.54E+04	1.14E+03	0.0230	0.0190	0.010000	0.010000	9.42E-03	6.21%	6.96E-02
6.54E+04	1.14E+03	0.0230	0.0190	0.069598	0.009415	6.90E-02	-86.36%	6.90E-02
6.54E+04	1.14E+03	0.0230	0.0190	1.000000	1.000000	9.99E-01	0.06%	1.06E+00
6.54E+04	1.14E+03	0.0230	0.0190	1.059598	0.999415	1.06E+00	-5.63%	1.06E+00
6.54E+04	1.14E+03	0.0230	0.0190	1.059013	1.059013	1.06E+00	0.06%	1.12E+00
6.54E+04	1.14E+03	0.0230	0.0190	1.118612	1.058429	1.12E+00	-5.33%	1.12E+00
6.54E+04	1.14E+03	0.0230	0.0190	1.118027	1.118027	1.12E+00	0.05%	1.18E+00
6.54E+04	1.14E+03	0.0230	0.0190	1.177625	1.117442	1.18E+00	-5.06%	1.18E+00
6.54E+04	1.14E+03	0.0230	0.0190	1.177040	1.177040	1.18E+00	0.05%	1.24E+00
6.54E+04	1.14E+03	0.0230	0.0190	1.236639	1.176456	1.24E+00	-4.82%	1.24E+00
6.54E+04	1.14E+03	0.0230	0.0190	1.236054	1.236054	1.24E+00	0.05%	1.30E+00

%diffP1a
-85.63%
0.85%
-5.62%
0.06%
-5.33%
0.05%
-5.06%
0.05%
-4.82%
0.05%
-4.60%