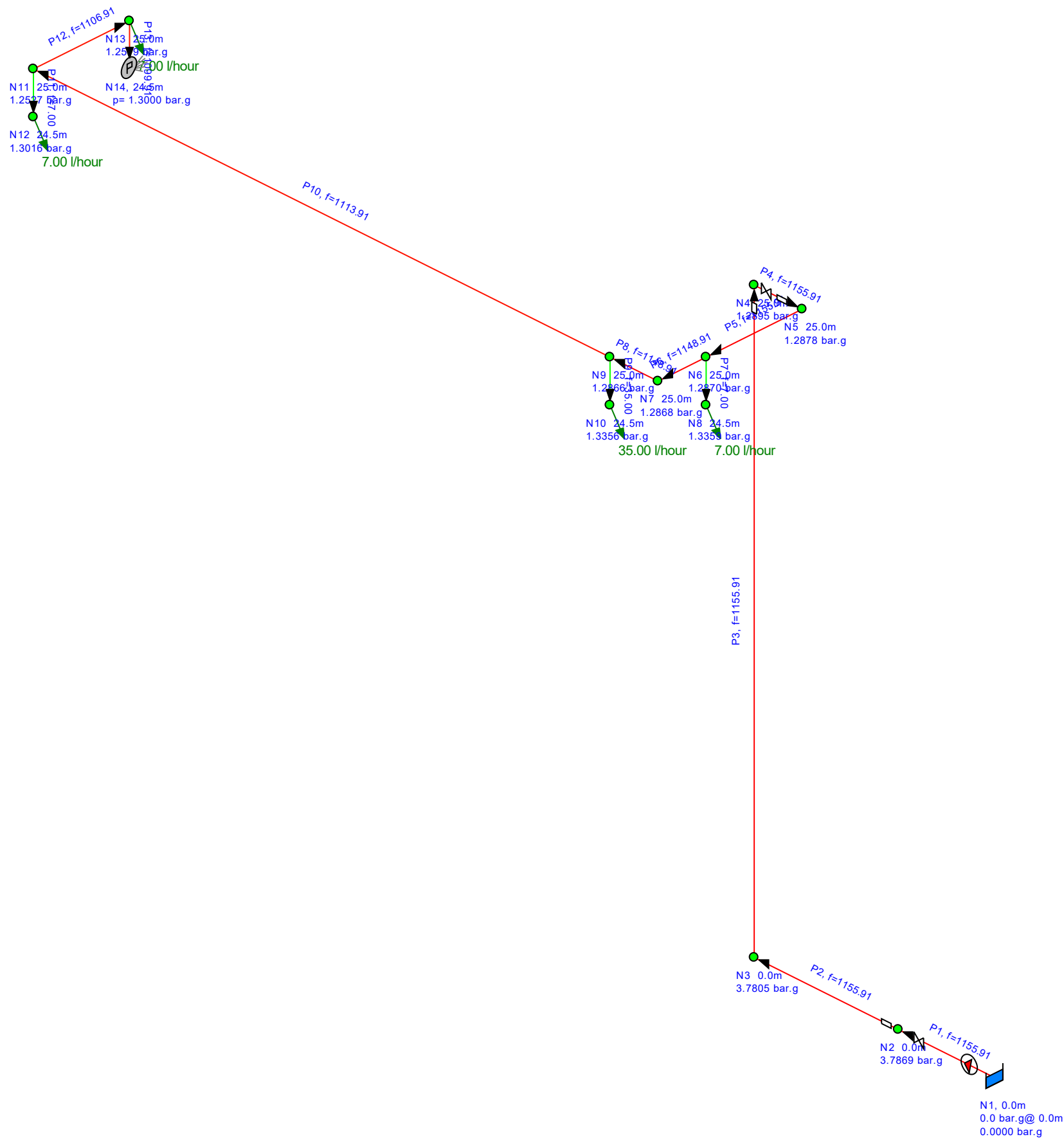




Pipe Flow Design 1

Results Data

Pipe Flow Expert Results Key	
f = flow in l/hour	
Color of Pipe: Velocity in m/sec	
0.0035	0.1180 0.2324 0.3469 0.4614 0.5758



Fluid Data

Zone	Fluid Name	Chemical Formula	Temperature °C	Pressure bar.g	Density kg/m ³	Centistokes	Centipoise	Vapour Pressure bar.a	State
1	Water	H2O	20.000	0.0000	998.000000	1.000000	1.002000	0.024000	Liquid

Pump Data

Pipe Id	Pipe Name	Pump Name	Speed rpm	Pref. Op From l/hour	Pref. Op To l/hour	Flow In/Out l/hour	Velocity m/sec	Suction Pressure bar.g	Discharge Pressure bar.g	Pump Head (+) m.hd Fluid	Pump NPSHr m.hd (absolute)	Pump NPSHa m.hd (absolute)	Pump Efficiency Percentag e	Pump Power Kilowatts
1	P1	Pump	Fixed Head Rise			1155.91	0.576	0.0000	3.8169	39.000	Not known	10.108	Not known	Not Known

Pipe Data

Pipe Id	Pipe Name and Notes	Inner Diameter mm	Length m	Mass Flow kg/sec	Vol Flow l/hour	Velocity m/sec	dP Total Loss bar	Entry Pressure bar.g	Exit Pressure bar.g
1	P1	26.645	3.048	0.3204	1155.91	0.576	-3.7869	0.0000	3.7869
2	P2	26.645	3.048	0.3204	1155.91	0.576	0.0064	3.7869	3.7805
3	P3	26.645	25.000	0.3204	1155.91	0.576	2.4911	3.7805	1.2895
4	P4	26.645	0.200	0.3204	1155.91	0.576	0.0016	1.2895	1.2878
5	P5	26.645	0.500	0.3204	1155.91	0.576	0.0009	1.2878	1.2870
6	P6	26.645	0.100	0.3185	1148.91	0.572	0.0002	1.2870	1.2868
7	P7	26.645	0.500	0.0019	7.00	0.003	-0.0489	1.2870	1.3359
8	P8	26.645	0.100	0.3185	1148.91	0.572	0.0002	1.2868	1.2866
9	P9	26.645	0.500	0.0097	35.00	0.017	-0.0489	1.2866	1.3356
10	P10	26.645	21.000	0.3088	1113.91	0.555	0.0340	1.2866	1.2527
11	P11	26.645	0.500	0.0019	7.00	0.003	-0.0489	1.2527	1.3016
12	P12	26.645	0.500	0.3069	1106.91	0.551	0.0008	1.2527	1.2519
13	P13	26.645	0.500	0.3049	1099.91	0.548	-0.0481	1.2519	1.3000

Pipe Fittings

Pipe Id	Pipe	Fitting Position	Description	Imperial Size	Metric Size	Database Ref	K Value	Quantity	K Total	Entry K Total	Exit K Total
1	P1	End of Pipe	Wafer Check Valve	1"	25 mm	ChWaf	14.5000	1	14.5000		
1	P1	End of Pipe	Long Bend	1"	25 mm	LB	0.3700	1	0.3700		
1	P1	End of Pipe	Ball Valve Full Bore	1"	25 mm	BallFB	0.0700	1	0.0700		
										0.0000	14.9400
2	P2	Start of Pipe	Standard Bend	1"	25 mm	SB	0.6900	1	0.6900		
										0.6900	0.0000
3	P3	End of Pipe	Standard Bend	1"	25 mm	SB	0.6900	1	0.6900		
										0.0000	0.6900
4	P4	Start of Pipe	Ball Valve Full Bore	1"	25 mm	BallFB	0.0700	1	0.0700		
4	P4	End of Pipe	Standard Bend	1"	25 mm	SB	0.6900	1	0.6900		
										0.0700	0.6900
5	P5	No Fittings									
6	P6	No Fittings									
7	P7	No Fittings									
8	P8	No Fittings									
9	P9	No Fittings									
10	P10	No Fittings									
11	P11	No Fittings									
12	P12	No Fittings									
13	P13	No Fittings									

Components

Pipe Id	Pipe Name	Inner Diameter mm	Comp. Name	Comp. Type	Comp. Value	Flow l/hour	Mass Flow kg/sec	Comp. Loss m.hd
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Flow Control Valves (FCVs)

Pipe Id	Pipe Name	Inner Diameter mm	FCV Name	FCV Mass Flow kg/sec	FCV Vol Flow l/hour	FCV Loss m.hd
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Pressure Reducing Valves (PRVs)

Pipe Id	Pipe Name	Inner Diameter mm	PRV Name	PRV Pressure bar.g	PRV Loss m.hd
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Back Pressure Valves (BPVs)

Pipe Id	Pipe Name	Inner Diameter mm	BPV Name	BPV Pressure bar.g	BPV Loss m.hd
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Node Data

Node Id	Node Type	Node	Elevation m	Liquid Level m	Surface Press. bar.g	Press. at Node bar.g	HGL at Node m.hd Fluid	Demand In (Mass) kg/sec	Demand Out (Mass) kg/sec	Demand In (Vol) @ Fluid Zone Density Downstream l/hour	Demand Out (Vol) @ Fluid Zone Density Downstream l/hour
1	Tank	N1	0.000	0.000	0.0000	0.0000	0.000	N/A	N/A	N/A	N/A
2	Join Point	N2	0.000	N/A	N/A	3.7869	38.693	0.0000	0.0000	0.00	0.00
3	Join Point	N3	0.000	N/A	N/A	3.7805	38.628	0.0000	0.0000	0.00	0.00
4	Join Point	N4	25.000	N/A	N/A	1.2895	38.175	0.0000	0.0000	0.00	0.00
5	Join Point	N5	25.000	N/A	N/A	1.2878	38.159	0.0000	0.0000	0.00	0.00
6	Join Point	N6	25.000	N/A	N/A	1.2870	38.150	0.0000	0.0000	0.00	0.00
7	Join Point	N7	25.000	N/A	N/A	1.2868	38.148	0.0000	0.0000	0.00	0.00
8	Join Point	N8	24.500	N/A	N/A	1.3359	38.150	0.0000	0.0019	0.00	7.00
9	Join Point	N9	25.000	N/A	N/A	1.2866	38.146	0.0000	0.0000	0.00	0.00
10	Join Point	N10	24.500	N/A	N/A	1.3356	38.146	0.0000	0.0097	0.00	35.00
11	Join Point	N11	25.000	N/A	N/A	1.2527	37.799	0.0000	0.0000	0.00	0.00
12	Join Point	N12	24.500	N/A	N/A	1.3016	37.799	0.0000	0.0019	0.00	7.00
13	Join Point	N13	25.000	N/A	N/A	1.2519	37.791	0.0000	0.0019	0.00	7.00
14	Demand Pressure	N14	24.500	N/A	1.3000	1.3000	37.783	N/A	N/A	N/A	N/A

Energy Data

Pipe Id	Pipe Name	Energy Loss To Pipe Friction	Energy Loss To Pipe Fittings	Energy Loss To Pipe Components	Energy Loss To Pipe Control Valves	Energy Loss To Pump Inefficiency	SUBTOTAL Loss Pipe Items +Pump	Energy Loss To Discharge Pressure	Energy Loss To Change in Elevation	TOTAL USED Sum of All Items
		Kilowatts	Kilowatts	Kilowatts	Kilowatts	Kilowatts	Kilowatts	Kilowatts	Kilowatts	Kilowatts
1	P1	0.000170	0.000794	0.000000	0.000000	Efficiency Not Specified	0.000964	0.000000	0.000000	0.000964
2	P2	0.000169	0.000037	0.000000	0.000000	N/A	0.000206	0.000000	0.000000	0.000206
3	P3	0.001386	0.000037	0.000000	0.000000	N/A	0.001422	0.000000	0.078562	0.079984
4	P4	0.000011	0.000040	0.000000	0.000000	N/A	0.000051	0.000000	0.000000	0.000051
5	P5	0.000028	0.000000	0.000000	0.000000	N/A	0.000028	0.000000	0.000000	0.000028
6	P6	0.000005	0.000000	0.000000	0.000000	N/A	0.000005	0.000000	0.000000	0.000005
7	P7	0.000000	0.000000	0.000000	0.000000	N/A	0.000000	0.000000	-0.000010	-0.000010
8	P8	0.000005	0.000000	0.000000	0.000000	N/A	0.000005	0.000000	0.000000	0.000005
9	P9	0.000000	0.000000	0.000000	0.000000	N/A	0.000000	0.000000	-0.000048	-0.000048
10	P10	0.001051	0.000000	0.000000	0.000000	N/A	0.001051	0.000000	0.000000	0.001051
11	P11	0.000000	0.000000	0.000000	0.000000	N/A	0.000000	0.000000	-0.000010	-0.000010
12	P12	0.000025	0.000000	0.000000	0.000000	N/A	0.000025	0.000000	0.000000	0.000025
13	P13	0.000024	0.000000	0.000000	0.000000	N/A	0.000024	0.039719	-0.001495	0.038248