Pipe 1 (Diameter = 3.2cm)

hf (cm)	h' (cm)	t (sec)	Q=ah'/t	v(m/s)	f_{act}	f2	log(f2)	R_e	log(R_e)	log(f_{act})	f1	log(f1)
3.2	10	59.8	0.000268	0.333	0.0453	0.0053	-2.2718	11967.7	4.078	-1.34	0.0302	-1.5198
4.3	10	49.81	0.000321	0.400	0.0423	0.0045	-2.3512	14367.9	4.157	-1.37	0.0289	-1.5397
5.8	10	48.99	0.000327	0.406	0.0551	0.0044	-2.3584	14608.4	4.165	-1.26	0.0287	-1.5415
14	10	33.98	0.000471	0.586	0.0640	0.0030	-2.5173	21061.4	4.323	-1.19	0.0262	-1.5812
14.7	10	28.76	0.000556	0.692	0.0482	0.0026	-2.5897	24884.1	4.396	-1.32	0.0252	-1.5993
15.1	10	26.39	0.000606	0.754	0.0417	0.0024	-2.6271	27118.8	4.433	-1.38	0.0246	-1.6086

Pipe 2 (Diameter = 2.54cm)

hf (cm)	h' (cm)	t (sec)	Q=ah'/t	v(m/s)	f_{act}	f2	log(f2)	R_e	log(R_e)	log(f_{act})	f1	log(f1)
7.5	10	59.88	0.000267	0.528	0.034	0.0043	-2.3716	15057.2	4.178	-1.474	0.0285	-1.5447
10.2	10	49.81	0.000321	0.634	0.032	0.0035	-2.4515	18101.3	4.258	-1.500	0.0272	-1.5647
12.5	10	48.99	0.000327	0.645	0.037	0.0035	-2.4587	18404.3	4.265	-1.427	0.0271	-1.5665
20.1	10	33.98	0.000471	0.930	0.029	0.0024	-2.6176	26534.0	4.424	-1.538	0.0248	-1.6063
31.6	10	28.76	0.000556	1.098	0.033	0.0020	-2.6901	31350.0	4.496	-1.486	0.0237	-1.6244
32.6	10	26.31	0.000608	1.201	0.028	0.0019	-2.7287	34269.3	4.535	-1.550	0.0232	-1.6340

Pipe 3 (Diameter = 1.5cm)

hf (cm)	Vol (m3)	t (sec)	Q	v(m/s)	f_{act}	log(f_{act})	f2	log(f2)	R_e	log(R_e)	f1	log(f1)
2.7	0.00075	27.91	2.69E-05	0.152	0.086	-1.066	0.0250	-1.6028	2564.2	3.409	0.0444	-1.353
4.9	0.00076	18.98	4.00E-05	0.227	0.070	-1.154	0.0167	-1.7760	3820.9	3.582	0.0402	-1.396
7.9	0.00076	15.45	4.92E-05	0.279	0.075	-1.125	0.0136	-1.8654	4693.9	3.672	0.0382	-1.418
10	0.0008	15.13	5.29E-05	0.299	0.082	-1.086	0.0127	-1.8967	5045.5	3.703	0.0375	-1.426
12.4	0.00083	13.16	6.31E-05	0.357	0.072	-1.145	0.0106	-1.9733	6018.3	3.779	0.0359	-1.445
18.9	0.00081	11.38	7.12E-05	0.403	0.086	-1.067	0.0094	-2.0258	6791.9	3.832	0.0348	-1.458

Pipe 4 (Diameter = 1.25cm)

hf (cm)	Vol (m3)	t (sec)	Q	v (m/s)	f_{act}	log(f_{act})	f2	logf2	R_e	log(R_e)	f1	logf1
4	0.00075	27.91	2.69E-05	0.219	0.051	-1.292	0.0208	-1.682	3077.0	3.488	0.042	-1.372
7.1	0.00076	18.98	4.00E-05	0.326	0.041	-1.389	0.0140	-1.855	4585.1	3.661	0.038	-1.416
9	0.00076	15.45	4.92E-05	0.401	0.034	-1.465	0.0114	-1.945	5632.7	3.751	0.036	-1.438
14.2	0.0008	15.13	5.29E-05	0.431	0.047	-1.329	0.0106	-1.976	6054.5	3.782	0.036	-1.446
17.3	0.00083	13.16	6.31E-05	0.514	0.040	-1.397	0.0089	-2.052	7221.9	3.859	0.034	-1.465
24.3	0.00081	11.38	7.12E-05	0.580	0.044	-1.354	0.0079	-2.105	8150.3	3.911	0.033	-1.478