

**Table 2 - PRESSURE LOSS OF WATER THROUGH SCHEDULE 40 STEELPIPE**

FLOW IN L/min	PRESSURE DROP IN BAR FOR VARIOUS PIPE SIZES (IN 10mm LENGTH)															
	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"	8"
1.0	0.07															
1.5	0.16	0.04														
2.0	0.26	0.06														
2.5	0.40	0.08														
3.0	0.56	0.12	0.03													
4.0	0.96	0.21	0.05	0.02												
6.0	2.0	0.45	0.10	0.03												
8.0	3.5	0.74	0.17	0.05	0.01											
10.0	-	1.2	0.25	0.08	0.02											
12.0	-	1.7	0.35	0.11	0.03											
15.0	-	2.6	0.54	0.17	0.04	0.01										
20.0	-	-	0.92	0.28	0.07	0.02										
25.0	-	-	1.2	0.45	0.11	0.03										
30.0	-	-	2.1	0.62	0.15	0.04	0.01									
40.0	-	-	-	1.1	0.25	0.08	0.02									
60.0	-	-	-	-	0.54	0.16	0.04	0.02	0.006							
80.0	-	-	-	-	0.93	0.28	0.07	0.03	0.009							
100.0	-	-	-	-	-	0.43	0.12	0.05	0.010							
115.0	-	-	-	-	-	0.58	0.14	0.06	0.015							
130.0	-	-	-	-	-	0.72	0.18	0.08	0.02	0.010						
150.0	-	-	-	-	-	-	0.23	0.10	0.03	0.012						
170.0	-	-	-	-	-	-	0.29	0.13	0.04	0.016						
190.0	-	-	-	-	-	-	0.36	0.16	0.05	0.02						
230.0	-	-	-	-	-	-	0.50	0.23	0.07	0.03	0.009					
260.0	-	-	-	-	-	-	-	0.32	0.09	0.04	0.01					
300.0	-	-	-	-	-	-	-	0.38	0.11	0.04	0.02	0.007				
340.0	-	-	-	-	-	-	-	0.50	0.14	0.06	0.02	0.009				
380.0	-	-	-	-	-	-	-	0.61	0.18	0.07	0.03	0.01				
470.0	-	-	-	-	-	-	-	-	0.28	0.11	0.04	0.02	0.009			
570.0	-	-	-	-	-	-	-	-	0.39	0.15	0.05	0.03	0.01			
750.0	-	-	-	-	-	-	-	-	0.64	0.26	0.09	0.04	0.02	0.007		
950.0	-	-	-	-	-	-	-	-	-	-	0.14	0.06	0.03	0.01		
1150.0	-	-	-	-	-	-	-	-	-	-	0.19	0.09	0.05	0.02		
1500.0	-	-	-	-	-	-	-	-	-	-	-	0.16	0.08	0.03	0.01	
1900.0	-	-	-	-	-	-	-	-	-	-	-	-	0.13	0.04	0.02	
2800.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.09	0.03	0.009
3800.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	0.06	0.02
7500.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	0.06

*Recommended flow rate ranges shown in blue*

largest, ideal for washing and cleaning being produced by flat fans.

There are a number of different ways to describe droplet-size information - these are summarised in Table 4. To compare

droplet-size from one nozzle to another, droplet diameters derived using the same assessment method must be used. Should you need specific droplet-size information, please contact us at

Lurmark - we have a droplet analyser which can be used to test nozzles. Viscosity and surface tension are the two main factors that influence droplet-size. Generally as viscosity or surface tension is increased, so the forces required to generate droplets are increased, leaving less energy available for atomisation. Hence viscous liquids or those with high surface tension tend to form more coarse droplets. Moreover, as flow rate increases an increase in droplet-size is also observed. In the case of air atomisers, increasing the shear velocity of the liquid will decrease droplet size.


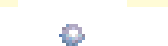


**Spray Pattern**

There are a number of different basic patterns that

can be produced by spray nozzles, as summarised with each flow rate chart. It is more than likely that more than one spray pattern would meet your application requirements - please consult our technical experts for more information.

**Spray angle, coverage and impact**

Using trigonometry, the spray angle, measured close to the nozzle orifice, and spray distance can be used to calculate the theoretical area that will be covered by spray (see diagram on page 8). In practice, as droplets move away from the nozzle orifice, they are influenced by gravity and air resistance. As a consequence the actual coverage achieved by a nozzle is substantially less than the theoretical value.

Degree of Atomisation	Droplet Size (Microns)	Relative Size
Fog	Up to 20	
Fine Mist	20 - 100	
Fine Drizzle	100 - 250	
Light Rain	250 - 1000	
Thunderstorm Rain	1000 - 4000	