

Lebanon Fire District Pump Chart

Pump Pressure Cheat Sheet				
Line	Length	Nozzle	GPM	EDP
1 1/4 Crosslay	150'	SB	150	120
1 1/4 Crosslay	150'	Metro 1	150	120
1 3/4 Crosslay	200'	Metro 1	150	130
Front Bumper	100'	Metro 1	150	100
2 1/2 Preconnect	150'	1 1/8" SB	265	80
3" Blitz Line	150'	Blitz Fire	500	130
1" Reel/Flue Fires	100'	Chimney	40	80

House Bundles				
Extended off 2 1/2"	100'	Metro 1	150	110
Extended off 150' 1 3/4"	100'	Metro 1	150	165
Extended off 200' 1 3/4"	100'	Metro 1	150	185

Monitor Nozzles		
1 1/8" tip	80 PSI (SB, at the Nozzle)	500 GPM
1 1/2" tip		600 GPM
1 3/4" tip		800 GPM
2" tip		1000 GPM
Combination	100 PSI	1000 GPM
Blitzfire	100 PSI	500 GPM

Hydrant Flow Capabilities	
10% drop	3 like flows
15% drop	2 like flows
25% drop	1 like flow

Foam	
Class A – 0.3%	Class B – 3%
Eductor - 200 PSI @ eductor, within 100' of the nozzle	

Useful Information	
Elevated Master Stream	EDP = 125 + Elevation
Relay pumping	40 PSI at pump panel
FDCs	EDP = 150
Standpipes	25 PSI and 5 PSI each floor

Pump Math Formulas
EDP = NP + FL + Appliance + Elevation
FL = C x (Q/100) ² x (L/100)

Nozzle Pressures (NP)	
Smooth Bore Handheld	50 PSI
Metro 1 & 2	50 PSI
Wildland Nozzle	100 PSI
Smooth Bore Master Stream	80 PSI
Combination Master Stream	100 PSI
Chimney Nozzle	60 PSI

Friction Loss (FL) in PSI per 100' Hose						
	150 GPM	250 GPM	300 GPM	500 GPM	750 GPM	1000 GPM
1 1/4"	35	97				
2 1/2"	4.5	12.5	18			
3"			7	20	45	80
4"			2	5	11.5	20

Appliance Friction Loss		Elevation	
Master Stream	25 PSI	+/- 10 ft	5 PSI
Appliances > 350 GPM	10 PSI		
Standpipe	25 PSI	Each floor	
Aerial Waterway	25 PSI		

Fire Flow Formula
$\left(\frac{\text{Length} * \text{Width}}{3} \right) \times \text{Percent involved} = \text{GPM}$

Coefficients (C)	
Diameter	Coefficient
1 1/2"	24
1 3/4"	15.5
2 1/2"	2
3"	0.8
4"	0.2
5"	0.08