

Fire Flows and Discharge Pressures			
Hose Dia.	Length	GPM	Discharge Pressure
1.5"	100'	100	125
1.5"	100'	150	155
1.5"	200'	150	210
1.5"	300'	100	175
1 3/4 (C)	100'	150	135
1 3/4	200'	150	170
1 3/4	300'	150	205
1 3/4 (M)	200'	150	170
1 3/4 (M)	200'	200	220
2.5"	200'	325	90
2.5"	200'	325	140

Progressive Hose Lays			
1.5"	100'	60	110
1.5"	200'	60	120
1.5"	300'	60	125

Friction Loss per 100 Feet of Hose						
1 1/2 Hose		1 3/4 Hose		2 1/2 Hose		4 Hose
GPM	FL	GPM	FL	GPM	FL	GPM/FL
60	9			100	2	600/7
100	25			150	5	800/13
150	55	150	35	200	8	1000/20
		200	60	250	12	
				300	18	
				325	21	
				400	32	

Portable Ground Monitor			
Tip Size	GPM	FL per 100' of (2) 2 1/2" Hose	NP + AP + FL
1 3/8	500	12	105 + (FL)
1 1/2	600	18	105 + (FL)
1 3/4	800	32	105 + (FL)

Aerial Ladder Pipe			
Tip Size	GPM	FL per 100' of 3" Hose	NP+AP+HP+FL=PDP (assuming 80')
1 1/2	600	28	80+25+40+28= 173
1 3/4	800	51	80+25+40+51= 196
2"	1000	80	80+25+40+80= 225
Fog	1000	80	100+25+40+80= 245

FL in Appliances Flowing > 350		Coefficients	
Standpipes	25	1"= 150	2 1/2"= 2
Master Streams	25	1 1/2"= 24	3"= 0.8
Wye or Siamese	10	1 3/4"=15.5	4"= 0.2

2.0

Smooth Bore Tip			Water in 50' of Hose		
1"	200G	1 3/8	500G	4"	32.5 gal
1 1/8"	250G	1 1/2	600G	2 1/2"	13 gal
1 1/4"	325G	1 3/4	800G	1 3/4"	6 gal
1 1/4" (master)	400G	2	1000G	1 1/2"	4 gal

COLA
 Cut in- At or above 85psi
 Cut Out- 110-130psi
 Low Air- 55-75psi
 Static- 2psi Engines, 3psi for trucks
 Applied- 3psi Engines, 4psi for Trucks
 Spring- 20-45psi
 Maxi Test- Apply put in D go to 900rpm
 Service- 5mph should not pull L or R

Truck 105 Interlocks (7)
 -Cab: Maxis, Front Wheel Lock, Aerial Master Switch
 -5th Wheel Lock
 -Outriggers Out/Down
 -Ladder Fully Bedded

Truck 105 EPU
 30 minutes w/ 30 minute break

Truck 105 Jackknife Alarm
 60 degrees constant

Truck 705 Interlocks (5)
 -Cab: Maxis, Aerial Master Switch
 -Outriggers Out/Down
 - Ladder Fully Bed

Truck 705 EPU
 3 minutes and done
 21 seconds with 5 min break

Truck 705 Jackknife Alarm
 65 and 80 degrees constant

Chantry Hydrant
 945 GPM at 32psi, blue hydrant
 680k gal upper reservoir (2217)
 1 mill gal lower reservoir (2135)

Whispering Pines Reservoir
 Pump @ 100psi
 (2) 300GPM pumps in shed (310-300)
 320K gal north reservoirs
 7.5 mill gal in south reservoir

Husky 10 Capacity
 160gpm @ 6%
 333gpm @ 3%
 1000gpm @ 1%

Husky 12 Capacity
 200gpm @ 6%
 400gpm @ 3%
 1200gpm @ 1%
 2400gpm @ .5%
 4000gpm @ .3%

Transfer Valve (Man vs Electric)
 75 psi or less
 Any pressure lower than
 250 psi (New E105)

Fireaide 2000
 Class A- .25%-1%
 Class B- Non-Polar 3%-6%
 Polar 6%
 Class D- 6%
 *with aspiration and low volume
 Class K- 6%
 * with aspiration and low volume

CAFS
 (Operating temp 165-210, alarms @ 250)
 Pierce recommends:
 1:1 ratio 150gpm 150cfm .3%
 For cooling:
 3:1 is preferred for @
 150gpm 50cfm .3%

Relay Pumping
 Receive @ 10-20psi

Water Ejector
 70' max below the pump
 100psi 76gpm 133gpm 209gpm 25'
 140psi 88gpm 133gpm 221gpm 35'
 180psi 100gpm 133gpm 233gpm 60'
 200psi 107gpm 133gpm 240gpm 70'

Thermal Relief Valve
 @140F circulates water to tank
 @180F light & water to ground
 @120F for OES

Cones and/or Flares
 25mph- 65'
 40mph- 105'
 60mph- 160'

Emergency Evacuation
 10 seconds ON/OFF, (3) sets
 total 60 sec cycle

DEF Fuel: Diesel exhaust fluid
 - urea solution that lowers
 NO conc. in exhaust

DPF: Diesel Particulate Filter
 - remove particulate matter/soot
 from exhaust (honeycomb design)

Driving Policy
 Max 10mph over speed limit
 Max 20mph in Oncoming traffic lan
 Max 25mph in ALL school zones
 Bad weather = posted speed limit
 All intersections/Red lights =
 COMPLETE STOP!

Hydraulics Policy
 Initial Fire Ground Flow: 300GPM
 Max Fire Ground pressure: 250psi
 Min. Intake Pressure: 10psi
 Handlines: 50psi
 Master Stream: 80psi
 Fog: 100psi