

DENVER FIRE DEPARTMENT PUMP CHART

OFFENSIVE OPERATIONS (PDP = NP + FL + APPL + ELEV)						
	FL/100'					
TIP	15/16" TIP OR FOG	1" TIP	1-3/16" TIP OR FOG	RAM OR BLITZ		
FLOW RATE	180 GPM	210 GPM	300 GPM	500 GPM		
NOZZLE PRESSURE	50/75 PSI	50 PSI	50/75 PSI	80 PSI		
1-3/4"	30	35	60	NA		
2"	20	30	50	NA		
2-1/2"	5	10	15	40		
3"	3	5	10	25		
OFFENSIVE APPLIANCES AND ELEVATION						
STANDPIPE AND SUPPLY HOSE TO FDC = 30 PSI		ELEV = 5 PSI PER FLOOR, 0.5 PSI PER FOOT				
BRESNANS (1-1/2" OR 2-1/2") = 100 PSI NOZZLE PRESSURE, 15 PSI FL/100'						
HIGH-RISE OPERATIONS						
ENGINE AT FDC, PUMP IN "PRESSURE" AND "PSI" (FOR SPRINKLERS, START IN "VOLUME" AT 150 PSI)						
BUILDINGS WITHOUT FIRE PUMPS: PUMP TO FDC AT IDLE, THEN SLOWLY PUMP TO FIRE FLOOR						
BUILDINGS WITH FIRE PUMP: IF FIRE PUMP IS RUNNING, PUMP TO THE FDC AT IDLE, IF FIRE PUMP IS <i>NOT</i> WORKING, PUMP TO FIRE FLOOR IF NO PRVS, PUMP TO ROOF IF PRVS PRESENT						
DEFENSIVE OPERATIONS (PDP = FL + APPL)						
TIP SIZE	1 TIP GPM (2 TIP GPM) FOGS = GPM	FL/100' MULTIPLE LINES (TRUCK OR TOWERS WITH 1 TIP) (TOWERS WITH 2 TIPS)				
		ONE - 3"	TWO - 3"	THREE - 3"	FOUR - 3"	ONE - 5"
1-3/8"	500 (1000)	25 (100)	6 (25)	3 (12)	2 (8)	2 (8)
1-1/2"	600 (1200)	40 (160)	10 (40)	5 (20)	3 (12)	3 (12)
1-3/4"	800 (1600)	60 (NA)	15 (60)	8 (32)	5 (20)	5 (20)
2"	1000 (2000)	100 (NA)	25 (100)	13 (50)	8 (32)	8 (32)
2-1/4"	1300 (2600)	170 (NA)	40 (160)	20 (80)	15 (60)	15 (60)
2-1/2"	1600 (3200)	NA (NA)	60 (NA)	30 (120)	20 (80)	20 (80)
DEFENSIVE APPLIANCES						
DECK GUN/GROUND MONITOR AT APPLIANCE = 100 PSI						
TRUCKS OR TOWERS AT TAILBOARD = 200 PSI (ENGINE WITHIN 100' OF TAILBOARD)						
RELAY OPERATIONS						
RELAY PUMPING: ATTACK ENGINES SHALL BE IN "PSI" MODE, SUPPLY ENGINES IN "VOLUME" AND "RPM" MODE WHILE MAINTAINING AT LEAST 20 PSI MINIMUM INTAKE PRESSURE						
RELAY MAX DISTANCES: WHEN PUMPING 5" AT 2000 GPM, MAX DIST 600' TO NEXT ENGINE						
WHEN PUMPING 3 X 3" AT 2000 GPM, MAX DIST 400' TO NEXT ENGINE						
WHEN FLOWING MORE THAN 1000 GPM : PUMP IN "VOLUME"						
RESIDUAL WATER						
0-10% DROP = 3 X GPM,		11-15% DROP = 2 X GPM,		16-20% DROP = 1 X GPM		

RESIDUAL WATER WORKSHEET

NP				
FL ₁				
FL ₂				
APPL				
ELEV				
PDP				
Volume				
	<u>Static</u>	<u>R1</u>	<u>R2</u>	<u>R3</u>
10% DROP 3 x FLOWS				
15% DROP 2 x FLOWS				
20% DROP 1 x FLOW				