### 200' PRE-CONNECT (FIRST)
- 200' 1¾” yellow Mercedes KrakenExo hose
- Elkhart XD 7/8” smooth bore
- NP = 50 psi
- GPM = 180
- **PDP = 100 psi**

### 200' PRE-CONNECT (SECOND)
- 200' 1¾” blue Mercedes KrakenExo hose
- Elkhart XD 7/8” smooth bore
- NP = 50 psi
- GPM = 180
- **PDP = 100 psi**

### LEADER LINE (Primary / Left)
- 100’ 1¾” blue Mercedes KrakenExo hose with reducer to 300’ 2” Mercedes KrakenExo hose
- Elkhart XD 7/8” smooth bore
- NP = 50 psi
- GPM = 180
- 100’ 1¾” + 100’ 2”: **PDP = 90**
- 100’ 1¾” + 200’ 2”: **PDP = 100**
- 100’ 1¾” + 300’ 2”: **PDP = 110**

### LEADER LINE (Second / Right)
- 100’ 1¾” hose (not blue) with reducer to 300’ 2½” hose
- TFT Dual-Force automatic nozzle in **low pressure** setting
- 100’ 1¾” + 100’ 2”: **PDP = 90**
- 100’ 1¾” + 200’ 2”: **PDP = 100**
- 100’ 1¾” + 300’ 2”: **PDP = 110**

NP = nozzle pressure
PDP = pump discharge pressure
GPM = gallons per minute

### STANDPIPE HIGH RISE
- Elkhart XD stacked 1” and 1 1/8” smooth-bore tip nozzle without pistol grip.
- Three (3) 50-foot lengths of 2” hose packaged in the Denver Load configuration with designated hose straps.
- NP = 50 psi
- 1” tip with 100’ of 2” hose
  - GPM = 220
  - Standpipe pressure gauge = 60 psi
- 1” tip with 150’ of 2” hose
  - GPM = 220
  - Standpipe pressure gauge = 70 psi
- 1 1/8” tip with 100’ of 2” hose
  - GPM = 270
  - Standpipe pressure gauge = 60 psi
- 1 1/8” tip with 150’ of 2” hose
  - GPM = 270
  - Standpipe pressure gauge = 80 psi

If the standpipe is supplied by a fire pump, allow hydrant pressure to charge the standpipe. The supply engine shall remain at idle and make adjustments as needed per the request of the Forward D/O.

If supplying a dry standpipe or one supplied by domestic water pressure, supply it at 100 psi plus elevation (5psi /floor) as a starting point and adjust as needed per the request of the Forward D/O.

### AUTOMATIC SPRINKLER - FIRE DEPARTMENT CONNECTION
Automatic sprinkler systems (not standpipe operations) with 2½” or 5” with (5psi /floor) **PDP = 150**

### DECK GUN / MONITOR NOZZLE
- NP = 80 psi
- **PDP = 90 psi**
- Tip size & gpm flow at 80 psi
  - 1 3/8”, 500 gpm
  - 1 ½”, 596 gpm
  - 1 ¾”, 813 gpm
  - 2”, 1063 gpm

*This chart is for reference purposes only. Fires are dynamic and unique, and it is the responsibility of the driver / operator to determine safe and appropriate pump discharge pressures.*
PUMP OPERATIONS & HYDRAULIC REFERENCE

October 2023

2½” SOLID STREAM ATTACK
- TFT stacked 1” and 1 1/8” smooth-bore tip nozzle without pistol grip attached to 400’ 2½” in static load
- NP = 50 psi
- 1” tip with 200’ of 2½”
  - GPM = 220
  - PDP = 50 psi
- 1 1/8” tip with 200’ of 2½”
  - GPM = 265
  - PDP = 50 psi

TFT BLITZFIRE
- 1” smoothbore
- NP = 80 psi
- GPM = 266
- PDP = 130 psi (350’, 2 ½” hose)

2½” FOG STREAM NOZZLE
- TFT Dual-Force automatic nozzle in low pressure setting
- NP = 55 psi
- GPM = 95 - 225
- PDP = 90 psi (350’, 2 ½” hose)

BOOSTER REEL
- 200’, 1” rubber hose on reel
- GPM = 40
- PDP = 120 psi

FOAM OPERATIONS
Hydrocarbons - Class B foam at 3%
- Gasoline, kerosene, diesel
Polar Solvents - Class B foam at 6%
- Alcohols, acids, ketones
- Pressure at eductor must be 200 psi
- Consider using 2½” line with reducer to reach eductor to achieve 200 psi with lower friction loss
- Length from eductor to nozzle must not exceed 150’
- GPM setting of nozzle must equal that of eductor

5” SUPPLY (1,000 GPM), 50 PSI AT RECEIVING INTAKE
- 100’
  - PDP=58
- 200’
  - PDP=66
- 300’
  - PDP=74
- 400’
  - PDP=82
- 500’
  - PDP=98
- 600’
  - PDP=100
- 700’
  - PDP=106
- 800’
  - PDP=114

LADDER OPERATIONS
Smooth Bore Stacked Tip
- NP = 80 psi
- PDP = 130 psi
- Tip size & gpm flow at 80 psi
  - 2”, 1,000 gpm
  - 2 ¼”, 1,347 gpm
  - 2 ½”, 1,665 gpm

FRICTION LOSS RULE OF THUMB
- 1¾” = 25 psi / 100’ @ 175 gpm
- 2½” = 15 psi / 100’ @ 250 gpm
- 4” = 20 psi / 100’ @ 1,000 gpm
- 5” = 8 psi / 100’ @ 1,000 gpm

This chart is for reference purposes only. Fires are dynamic and unique, and it is the responsibility of the driver / operator to determine safe and appropriate pump discharge pressures.