

Review Ave. Total Fluids Pump Discharge Line Sizing

PIPING HEAD LOSS - WATER

CALC BY **CHECK BY**
TCK BOD

SITE: Individual TF Pump - Max Flow
DATE:

Length 15 ft
Flow rate 5.0 gpm Max Pump flow rate
ID 0.75 inches (0.75" ID Tubing)
C 150 constant(steel = 100, thermoplastic = 150)
Pipe Area 0.003 ft²

FRICION HEAD 1.2 feet of H2O
Velocity 0.5 psi
 3.6 ft/sec

SITE: First Leg TF Header - Flow from 1 well
DATE:

Length 50 ft
Flow rate 5.0 gpm Max Pump flow rate
ID 1.00 inches (1.0" ID Tubing)
C 150 constant(steel = 100, thermoplastic = 150)
Pipe Area 0.005 ft²

FRICION HEAD 1.0 feet of H2O
Velocity 0.4 psi
 2.0 ft/sec

SITE: Second Leg TF Header - Flow from 2 wells
DATE:

Length 50 ft
Flow rate 10.0 gpm Max Pump flow rate
ID 1.50 inches (1.5" ID)
C 150 constant(steel = 100, thermoplastic = 150)
Pipe Area 0.012 ft²

FRICION HEAD 0.5 feet of H2O
Velocity 0.2 psi
 1.8 ft/sec

SITE: Third Leg TF Header - Flow from 3 wells
DATE:

Length 50 ft
Flow rate 15.0 gpm Max Pump flow rate
ID 1.50 inches (1.5" ID)
C 150 constant(steel = 100, thermoplastic = 150)
Pipe Area 0.012 ft²

FRICION HEAD 1.0 feet of H2O
Velocity 0.4 psi
 2.7 ft/sec

SITE: Fourth Leg TF Header - Flow from 4 wells
DATE:

Length 50 ft
Flow rate 20.0 gpm Max Pump flow rate
ID 1.50 inches (1.5" ID)
C 150 constant(steel = 100, thermoplastic = 150)
Pipe Area 0.012 ft²

FRICION HEAD 1.8 feet of H2O
Velocity 0.8 psi
 3.6 ft/sec

SITE: Fifth Leg TF Header - Flow from 5 wells
DATE:

Length 50 ft
Flow rate 25.0 gpm Max Pump flow rate
ID 1.50 inches (1.5" ID)
C 150 constant(steel = 100, thermoplastic = 150)
Pipe Area 0.012 ft²

FRICION HEAD 2.7 feet of H2O
Velocity 1.1 psi
 4.5 ft/sec

SITE: TF Pump Header TF-7A to SXB - Flow from 6 wells
DATE:

Length 100 ft
Flow rate 30.0 gpm Worst Case Flow Rate 6 Pumps on Header (Zone TF-7)
ID 1.50 inches (1.5" ID)
C 150 constant(steel = 100, thermoplastic = 150)
Pipe Area 0.012 ft²

FRICION HEAD 7.4 feet of H2O
Velocity 3.2 psi
 5.4 ft/sec

SITE: Combined All TF Wells to Treatment System
DATE:

Length 340 ft
Flow rate 30.0 gpm
ID 2.00 inches (2" ID)
C 150 constant(steel = 100, thermoplastic = 150)
Pipe Area 0.022 ft²

FRICION HEAD 6.2 feet of H2O
Velocity 2.7 psi
 3.1 ft/sec

Elev @ Pump Intake	Elev @ OWS Inlet	Static Head	TDH	TDH w/ 10% FOS	PSI @ 0.9 1.0 SG
2.0	31.0	29.0	50.7	55.8	50.24