

Company: Bonneville Power Administration

Name:

Date: 2/8/2007

Selection: Missing Fairbanks Vertical Turbines



Pump:

Size: 24E.1+ (1 stage)
 Type: VERT.TURBINE
 Synch speed: 1200 rpm
 Curve: 12-202
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 1180 rpm
 Dia: 18.92 in
 Impeller:
 Ns: ---
 Nss: ---
 Suction: 22.5 in
 Discharge: 16 in
 Bowl size: 24 in
 Max lateral: 0.44 in
 Thrust K factor: 48 lb/ft

Search Criteria:

Flow: --- US gpm Head: --- ft

Fluid:

Water
 Density: 62.25 lb/ft³
 Viscosity: 1.105 cP
 NPSHa: --- ft
 Temperature: 60 °F
 Vapor pressure: 0.2563 psi a
 Atm pressure: 14.7 psi a

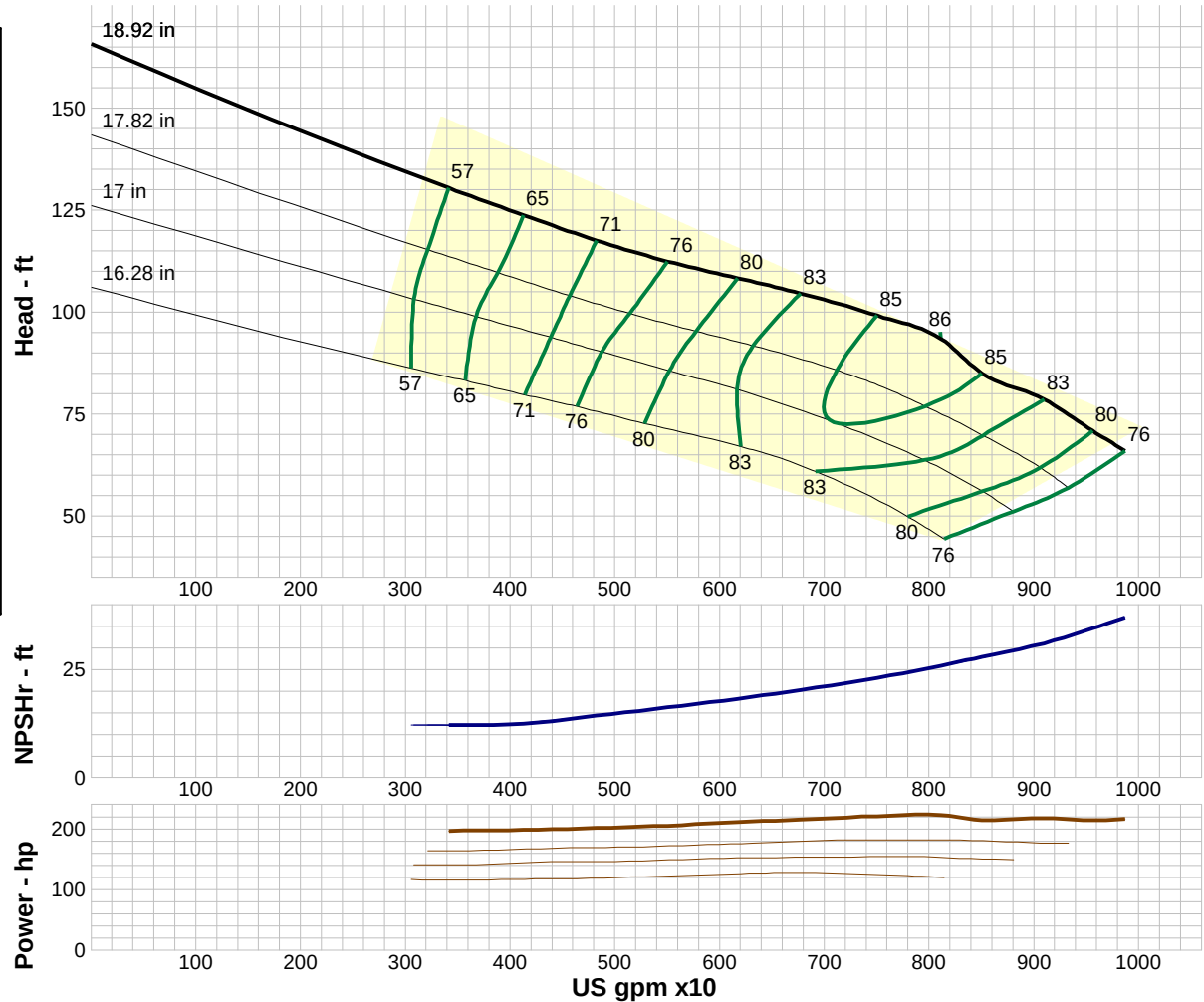
Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 250 hp
 Speed: 1200
 Frame: 449T

Pump Limits:

Temperature: 150 °F
 Pressure: 300 psi g
 Sphere size: 1.88 in
 Power: 1010 hp
 Eye area: --- in²

---- Data Point ----	
Flow:	8109 US gpm
Head:	93.5 ft
Eff:	86%
Power:	223 hp
NPSHr:	25.9 ft
---- Design Curve ----	
Shutoff head:	166 ft
Shutoff dP:	71.6 psi
Min flow:	--- US gpm
BEP:	86% @ 8109 US gpm
NOL power:	223 hp @ 8109 US gpm
-- Max Curve --	
Max power:	223 hp @ 8109 US gpm



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
9470	1180	72.4	80.6	215	33.9
7892	1180	95.5	85.6	222	24.9
6314	1180	107	80.7	212	18.8
4735	1180	118	70.3	201	14.1
3157	1180	133	54.2	196	12.2