

Company: Bonneville Power Administration

Name:

Date: 2/8/2007

Selection: Missing Fairbanks Vertical Turbines



Pump:

Size: 30E.1+ (1 stage)
 Type: VERT.TURBINE
 Synch speed: 900 rpm
 Curve: 09-046
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 880 rpm
 Dia: 21.4 in
 Impeller:
 Ns: ---
 Nss: ---
 Suction: 27.25 in
 Discharge: 20 in
 Bowl size: 27.75 in
 Max lateral: 1 in
 Thrust K factor: 65 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

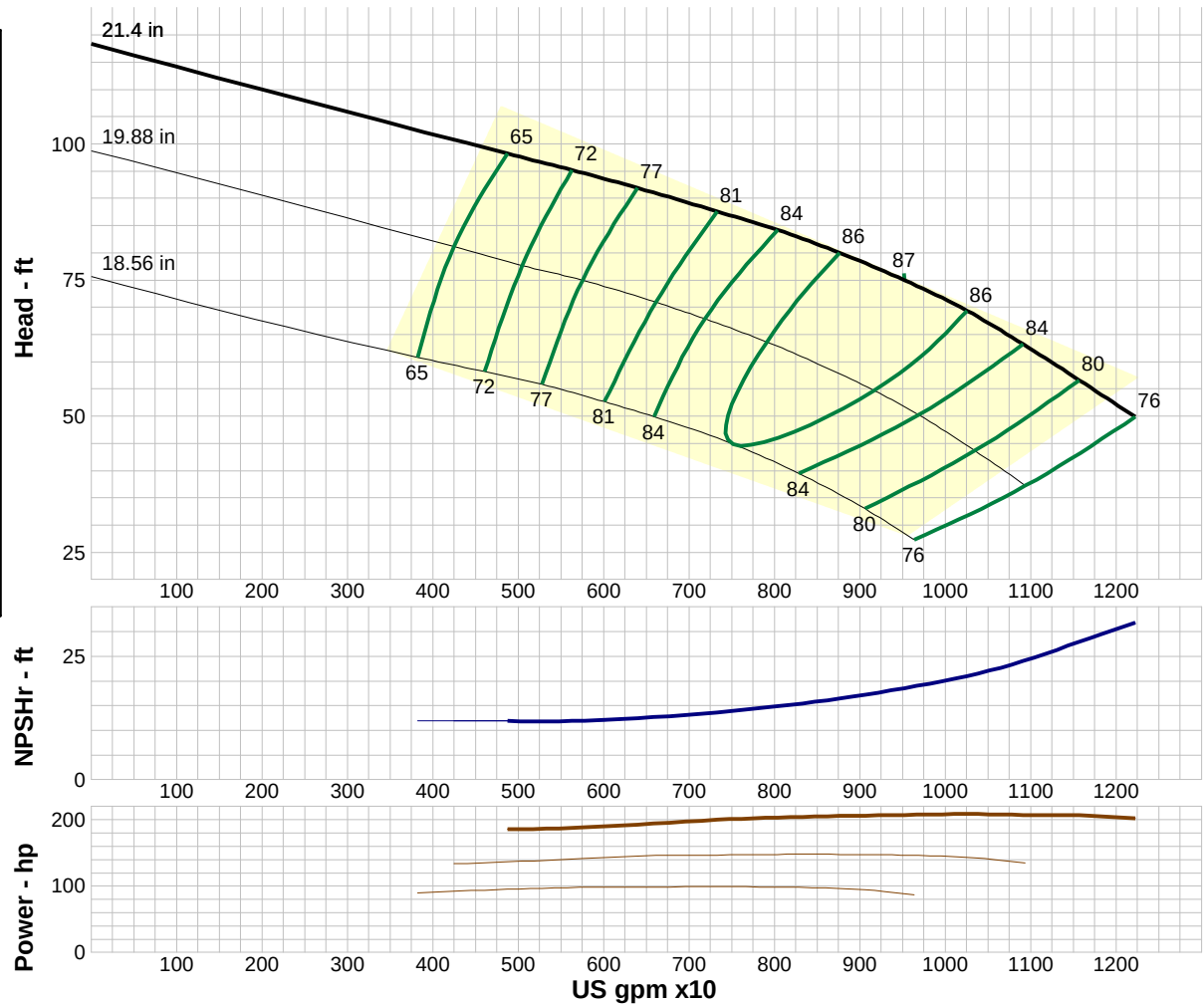
Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 250 hp
 Speed: 900
 Frame: 449T

Pump Limits:

Temperature: 150 °F
 Pressure: 300 psi g
 Sphere size: 2.36 in
 Power: 1184 hp
 Eye area: --- in²

---- Data Point ----	
Flow:	9517 US gpm
Head:	75 ft
Eff:	87%
Power:	207 hp
NPSHr:	18.6 ft
---- Design Curve ----	
Shutoff head:	118 ft
Shutoff dP:	51.2 psi
Min flow:	--- US gpm
BEP:	87% @ 9517 US gpm
NOL power:	209 hp @ 10248 US gpm
-- Max Curve --	
Max power:	209 hp @ 10248 US gpm



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
11729	880	54.9	79	206	28.9
9774	880	73	86.6	208	19.4
7819	880	85.2	83.1	202	14.5
5864	880	94.2	73.6	189	12.1
3910	880	102	56.1	183	11.9