

Company: Bonneville Power Administration

Name:

Date: 2/8/2007

Selection: Missing Fairbanks Vertical Turbines



Pump:

Size: 10E.1 (1 stage)
 Type: VERT.TURBINE
 Synch speed: 3600 rpm
 Curve: 36-072
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3500 rpm
 Dia: 7.72 in
 Impeller:
 Ns: ---
 Nss: ---
 Suction: --- in
 Discharge: 6 in
 Bowl size: 9.63 in
 Max lateral: 0.86 in
 Thrust K factor: 4 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

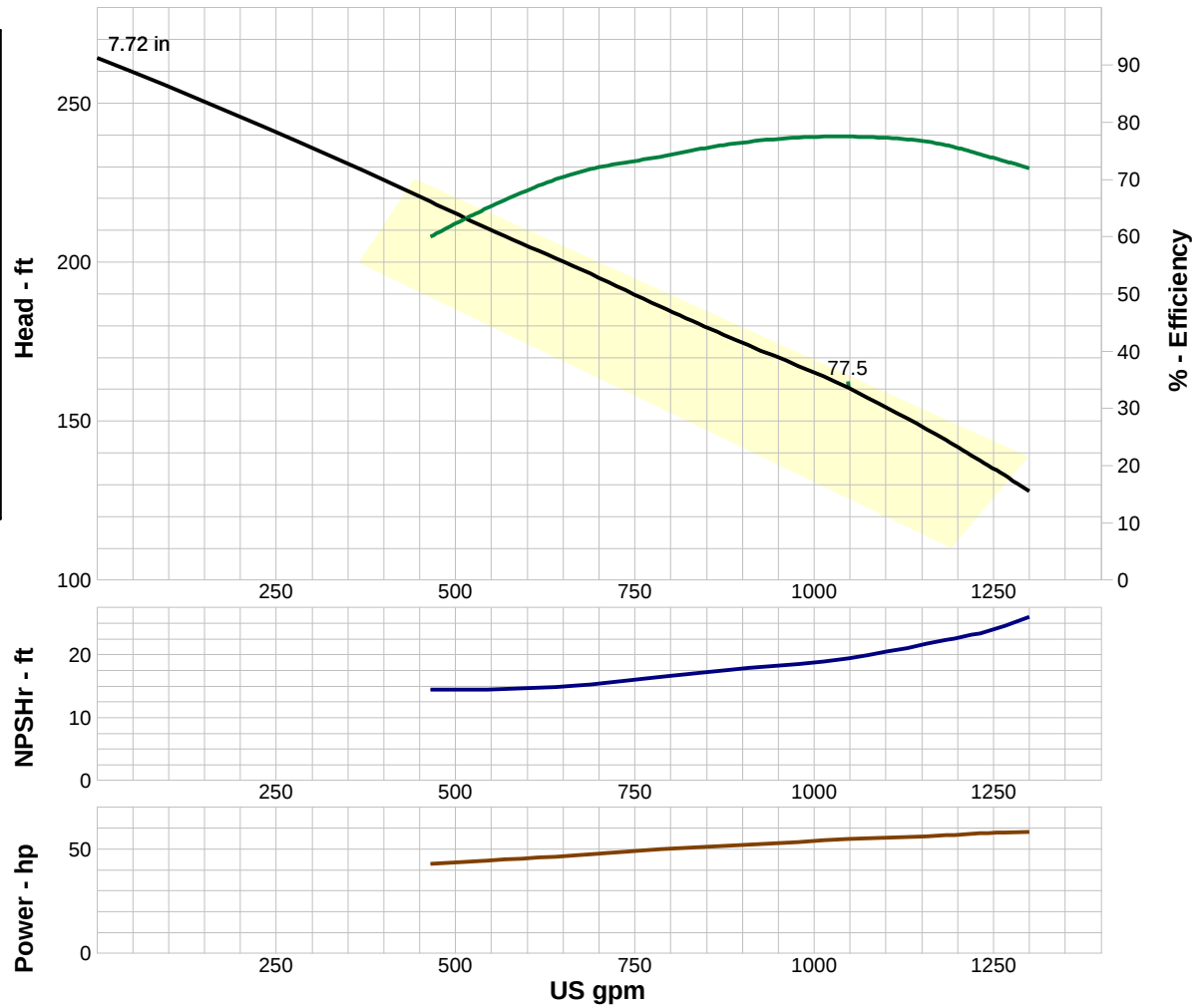
Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 60 hp
 Speed: 3600
 Frame: 364TS

Pump Limits:

Temperature: 150 °F
 Pressure: 700 psi g
 Sphere size: 0.625 in
 Power: 555 hp
 Eye area: --- in²

---- Data Point ----	
Flow:	1047 US gpm
Head:	160 ft
Eff:	77.5%
Power:	54.7 hp
NPSHr:	19.5 ft
---- Design Curve ----	
Shutoff head:	264 ft
Shutoff dP:	114 psi
Min flow:	--- US gpm
BEP:	77.5% @ 1047 US gpm
NOL power:	58.3 hp @ 1299 US gpm



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
1247	3500	135	73.8	57.7	24
1039	3500	161	77.4	54.6	19.4
831	3500	181	75.1	50.6	17
623	3500	203	69	46.1	14.9
416	3500	224	56.9	41.8	14.5