

Company: Bonneville Power Administration

Name:

Date: 11/25/2006



#### Pump:

Size: 10MO (1 stage)  
 Type: Vertical  
 Synch speed: 1760 rpm  
 Curve: 10MO  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1760 rpm  
 Dia: 7.688 in  
 Impeller:  
 Ns: 1760  
 Nss: ---  
 Suction: 6 in  
 Discharge: 6 in  
 Bowl size: 9.5 in  
 Max lateral: 0.625 in  
 Thrust K factor: 7.5 lb/ft

#### Search Criteria:

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

#### Fluid:

Water  
 Density: 62.25 lb/ft<sup>3</sup>  
 Viscosity: 1.105 cP  
 NPSHa: --- ft  
 Temperature: 60 °F  
 Vapor pressure: 0.2563 psi a  
 Atm pressure: 14.7 psi a

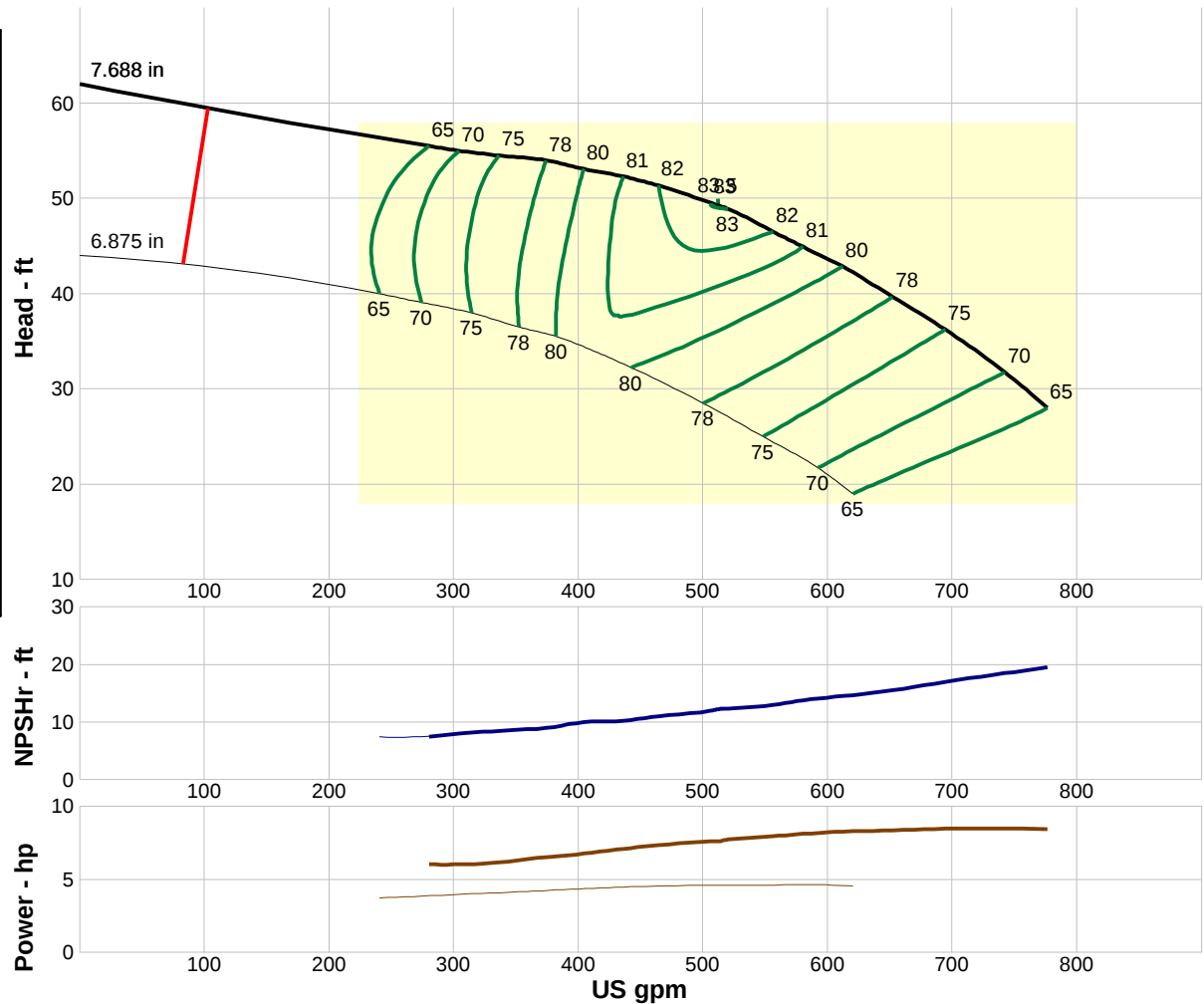
#### Motor:

Standard: NEMA  
 Enclosure: TEFC  
 Sizing criteria: Max Power on Design Curve  
 --- hp  
 Speed: ---  
 Frame: ---

#### Pump Limits:

Temperature: 140 °F  
 Pressure: 595 psi g  
 Sphere size: 0.625 in  
 Power: 150 hp  
 Eye area: --- in<sup>2</sup>

| ---- Data Point ----   |                     |
|------------------------|---------------------|
| Flow:                  | 512 US gpm          |
| Head:                  | 49.3 ft             |
| Eff:                   | 83.5%               |
| Power:                 | 7.63 hp             |
| NPSHr:                 | 12.3 ft             |
| ---- Design Curve ---- |                     |
| Shutoff head:          | 62 ft               |
| Shutoff dP:            | 26.8 psi            |
| Min flow:              | 102 US gpm          |
| BEP:                   | 83.5% @ 512 US gpm  |
| NOL power:             | 8.5 hp @ 742 US gpm |
| -- Max Curve --        |                     |
| Max power:             | 8.5 hp @ 742 US gpm |



#### Performance Evaluation:

| Flow<br>US gpm | Speed<br>rpm | Head<br>ft | Efficiency<br>% | Power<br>hp | NPSHr<br>ft |
|----------------|--------------|------------|-----------------|-------------|-------------|
| 745            | 1760         | 31.4       | 69.6            | 8.49        | 18.6        |
| 621            | 1760         | 42.1       | 79.5            | 8.3         | 14.7        |
| 497            | 1760         | 49.9       | 82.8            | 7.56        | 11.8        |
| 373            | 1760         | 54         | 77.9            | 6.53        | 8.99        |
| 248            | 1760         | 56.2       | 58.3            | 6.04        | 6.83        |