

Company: Bonneville Power Administration

Name:

Date: 11/26/2006



#### Pump:

Size: 12"5821  
Type: 5800-HSC  
Synch speed: 900 rpm  
Curve: 211208B  
Specific Speeds:  
Dimensions:  
Speed: 885 rpm  
Dia: 14 in  
Impeller: D12C1B  
Ns: 3541  
Nss: 11840  
Suction: 14 in  
Discharge: 12 in

#### Pump Limits:

Temperature: 160 °F  
Pressure: 175 psi g  
Sphere size: 1.25 in  
Power: --- hp  
Eye area: --- in<sup>2</sup>

#### Search Criteria:

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

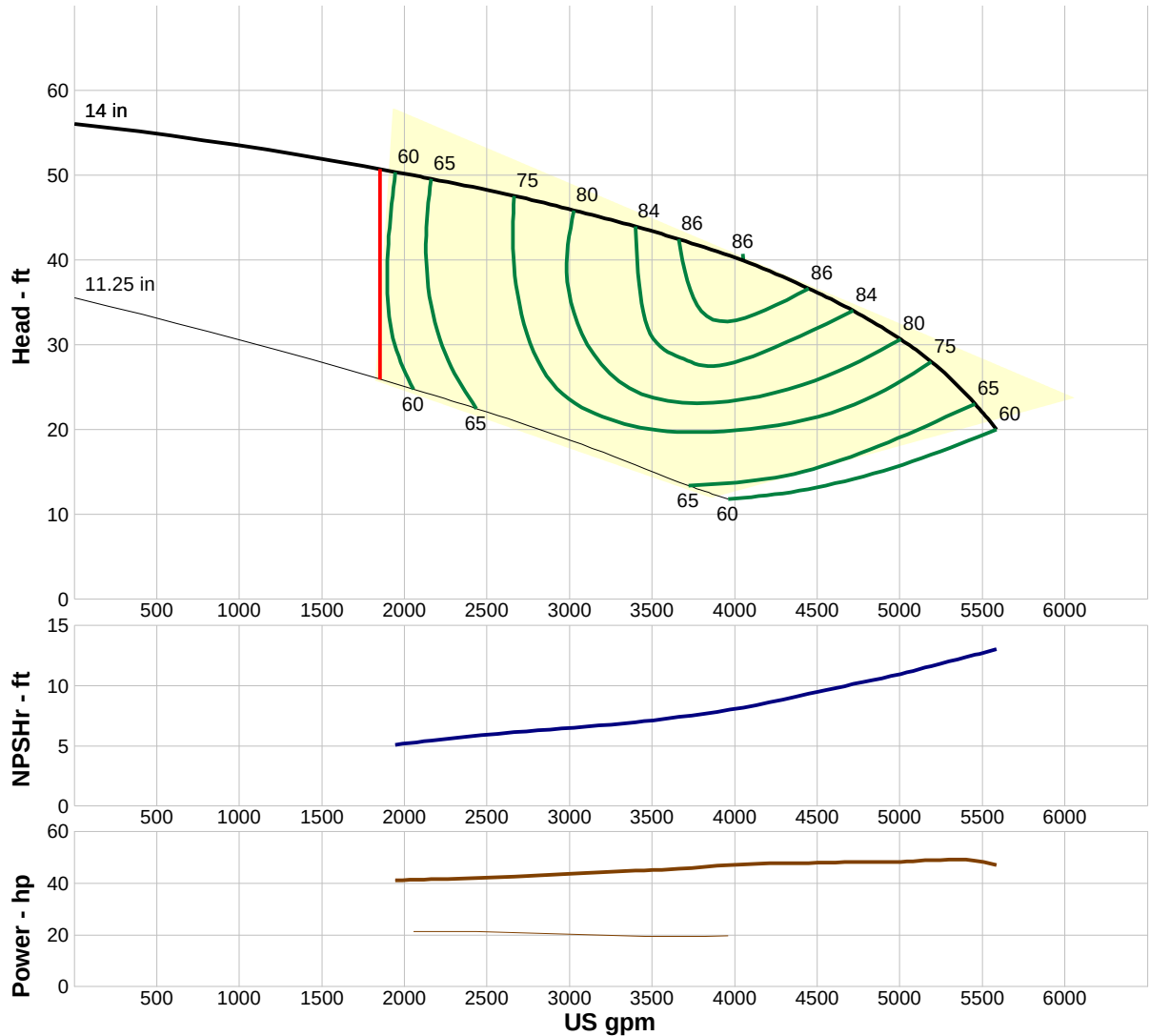
#### Fluid:

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  
Size: 50 hp  
Speed: 900  
Frame: 404T

| ---- Data Point ----   |                     |
|------------------------|---------------------|
| Flow:                  | 4048 US gpm         |
| Head:                  | 40 ft               |
| Eff:                   | 86%                 |
| Power:                 | 47.4 hp             |
| NPSHr:                 | 8.19 ft             |
| ---- Design Curve ---- |                     |
| Shutoff head:          | 56.1 ft             |
| Shutoff dP:            | 24.2 psi            |
| Min flow:              | 1850 US gpm         |
| BEP:                   | 86% @ 4048 US gpm   |
| NOL power:             | 49 hp @ 5189 US gpm |
| -- Max Curve --        |                     |
| Max power:             | 49 hp @ 5189 US gpm |



#### Performance Evaluation:

| Flow<br>US gpm | Speed<br>rpm | Head<br>ft | Efficiency<br>% | Power<br>hp | NPSHr<br>ft |
|----------------|--------------|------------|-----------------|-------------|-------------|
| 5359           | 885          | 24.8       | 69              | 48.9        | 12.2        |
| 4466           | 885          | 36.5       | 86              | 47.9        | 9.4         |
| 3573           | 885          | 43         | 85              | 45.4        | 7.26        |
| 2680           | 885          | 47.5       | 75              | 42.7        | 6.17        |
| 1786           | 885          | ---        | ---             | ---         | ---         |