

Company: Bonneville Power Administration

Name:

Date: 11/26/2006



#### Pump:

Size: 10"2823A  
 Type: 2800-HSC  
 Synch speed: 1200 rpm  
 Curve: 231006A  
 Specific Speeds:  
 Dimensions:  
 Speed: 1185 rpm  
 Dia: 14.25 in  
 Impeller: J10H1A3  
 Ns: 3211  
 Nss: 9713  
 Suction: 14 in  
 Discharge: 10 in

#### Pump Limits:

Temperature: 160 °F  
 Pressure: 250 psi g  
 Sphere size: 1.22 in  
 Power: --- hp  
 Eye area: --- in<sup>2</sup>

#### Search Criteria:

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

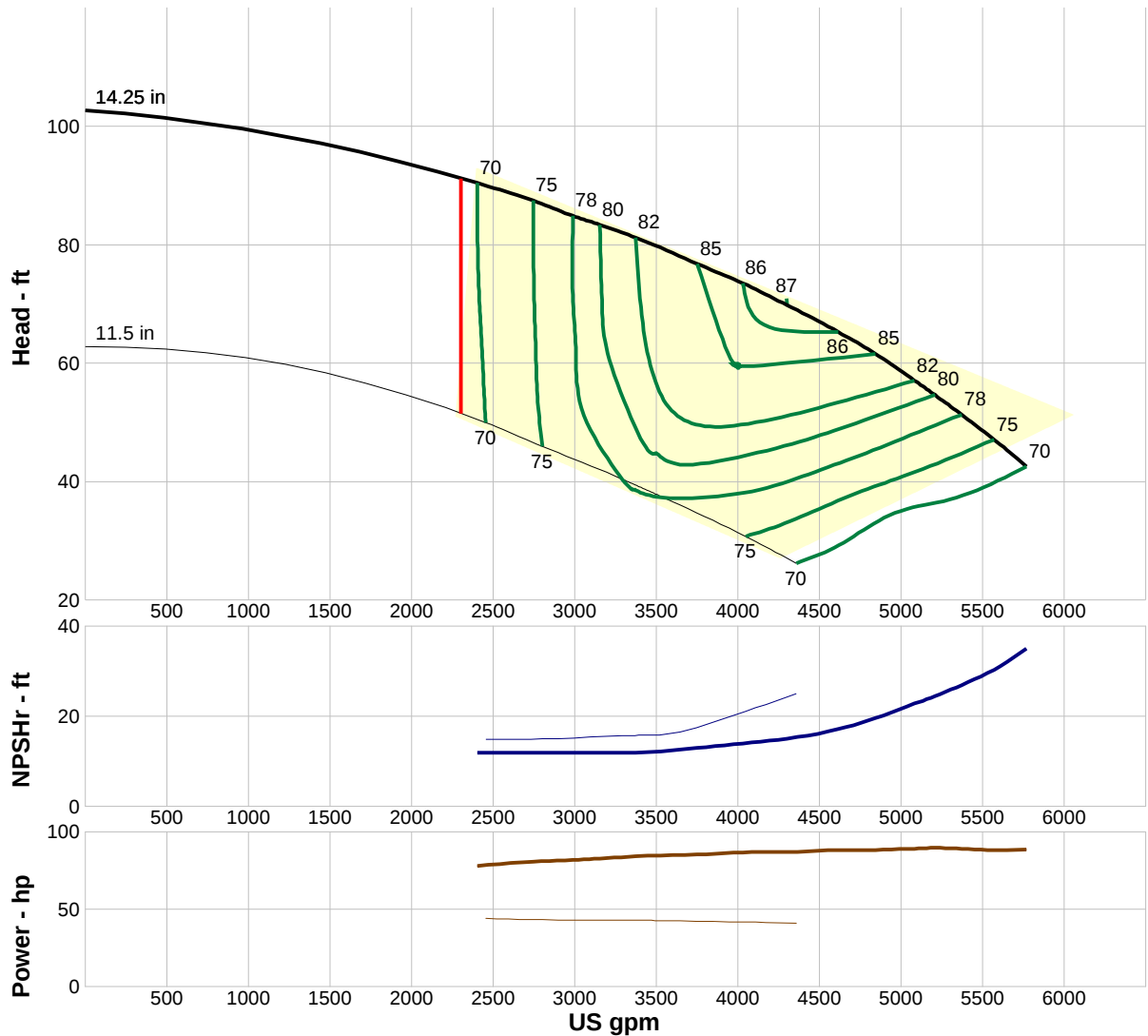
#### Fluid:

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: 100 hp  
 Speed: 1200  
 Frame: 444T

| ---- Data Point ----   |                       |
|------------------------|-----------------------|
| Flow:                  | 4300 US gpm           |
| Head:                  | 69.8 ft               |
| Eff:                   | 87%                   |
| Power:                 | 87.1 hp               |
| NPSHr:                 | 15.1 ft               |
| ---- Design Curve ---- |                       |
| Shutoff head:          | 103 ft                |
| Shutoff dP:            | 44.4 psi              |
| Min flow:              | 2300 US gpm           |
| BEP:                   | 87% @ 4300 US gpm     |
| NOL power:             | 89.8 hp @ 5206 US gpm |
| -- Max Curve --        |                       |
| Max power:             | 89.8 hp @ 5206 US gpm |



#### Performance Evaluation:

| Flow<br>US gpm | Speed<br>rpm | Head<br>ft | Efficiency<br>% | Power<br>hp | NPSHr<br>ft |
|----------------|--------------|------------|-----------------|-------------|-------------|
| 5536           | 1185         | 47.8       | 75              | 88.5        | 29.8        |
| 4613           | 1185         | 65.3       | 86              | 88.4        | 17.1        |
| 3690           | 1185         | 77.5       | 85              | 85.3        | 12.8        |
| 2768           | 1185         | 87.2       | 75              | 81          | 12          |
| 1845           | 1185         | ---        | ---             | ---         | ---         |