

Company: Bonneville Power Administration

Name:

Date: 2/9/2007

Selection: Gould Centrifugal Pump



#### Pump:

Size: 12BF  
Type: CC\_ENDSUCTION  
Synch speed: 3600 rpm  
Curve: GP 3656/3756  
Specific Speeds:  
Dimensions:  
Speed: 3500 rpm  
Dia: 9.125 in  
Impeller:  
Ns: ---  
Nss: ---  
Suction: 4 in  
Discharge: 3 in

#### 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:

Consult GOULDS to select a motor for this pump.

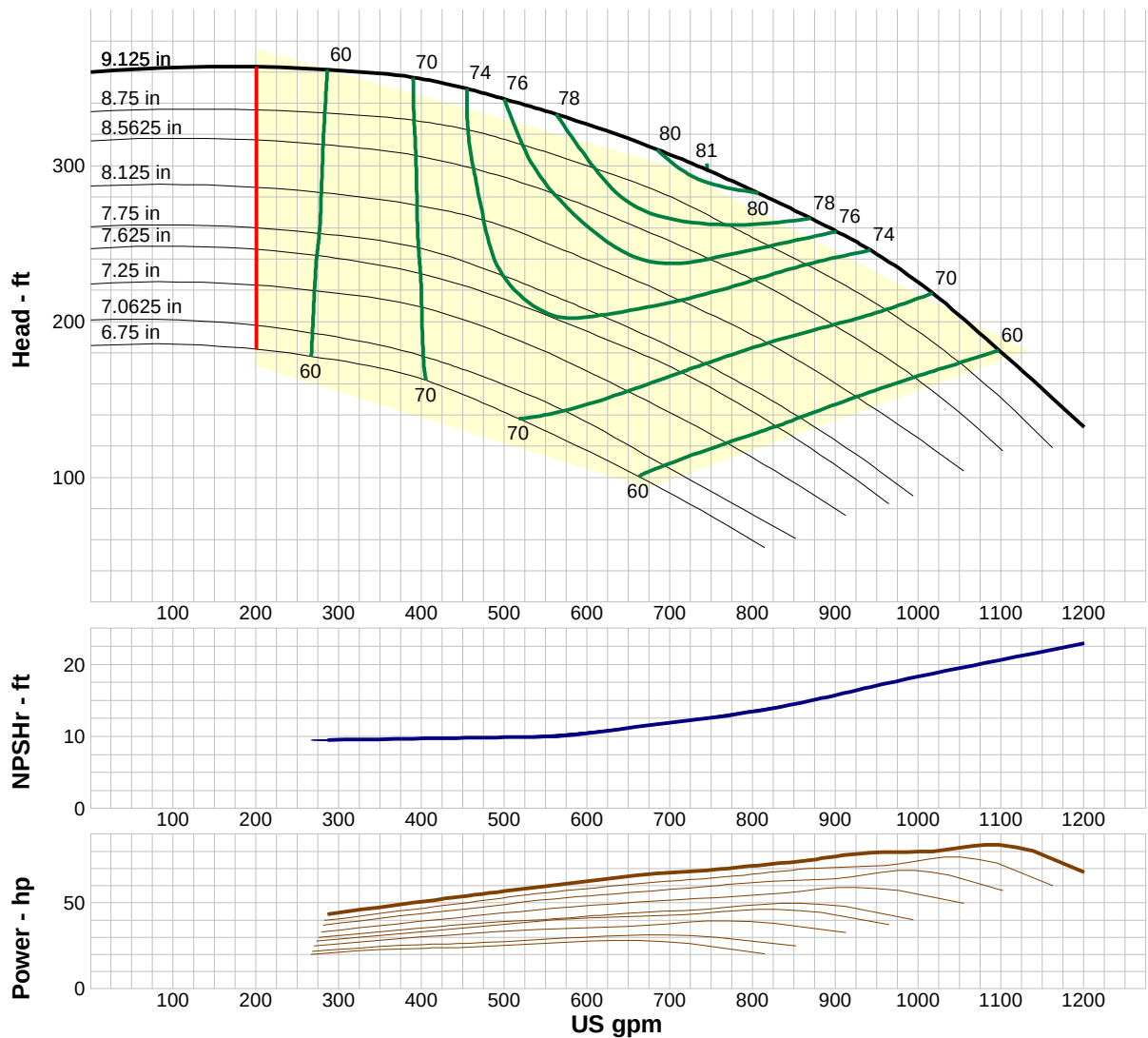
#### Pump Selection Warnings:

Design curve maximum power exceeds limit for the pump.

#### Pump Limits:

Temperature: 212 °F  
Pressure: 200 psi g  
Sphere size: 0.5 in  
Power: 75 hp  
Eye area: --- in<sup>2</sup>

| ---- Data Point ----   |                       |
|------------------------|-----------------------|
| Flow:                  | 745 US gpm            |
| Head:                  | 297 ft                |
| Eff:                   | 81%                   |
| Power:                 | 69 hp                 |
| NPSHr:                 | 12.5 ft               |
| ---- Design Curve ---- |                       |
| Shutoff head:          | 360 ft                |
| Shutoff dP:            | 156 psi               |
| Min flow:              | 200 US gpm            |
| BEP:                   | 81% @ 745 US gpm      |
| NOL power:             | 83.8 hp @ 1097 US gpm |
| -- Max Curve --        |                       |
| Max power:             | 83.8 hp @ 1097 US gpm |



#### Performance Evaluation:

| Flow<br>US gpm | Speed<br>rpm | Head<br>ft | Efficiency<br>% | Power<br>hp | NPSHr<br>ft |
|----------------|--------------|------------|-----------------|-------------|-------------|
| 1152           | 3500         | 155        | 59              | 75.3        | 21.8        |
| 960            | 3500         | 239        | 73              | 79.3        | 17.3        |
| 768            | 3500         | 292        | 81              | 70.1        | 12.9        |
| 576            | 3500         | 330        | 78              | 61.3        | 10.2        |
| 384            | 3500         | 357        | 69              | 49.7        | 9.68        |