

Company: Northstar Industries
 Name: PUMP CURVE - 13"
 Date: 3/12/2015



Pump:

Size: NSI-VTP-03 (1 stage)
 Type: Vertical Turbine
 Synch speed: 1800 rpm
 Curve:
 Specific Speeds:
 Dimensions:
 Vertical Turbine:

Speed: 1800 rpm
 Dia: 13.25 in
 Impeller: 267081-FA
 Ns: ---
 Nss: ---
 Suction: ---
 Discharge: 12 in
 Bowl size: 17.3 in
 Max lateral: ---
 Thrust K factor: 1.2 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 Density: 62.32 lb/ft³
 Viscosity: 0.9946 cP
 NPSHa: ---

Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve

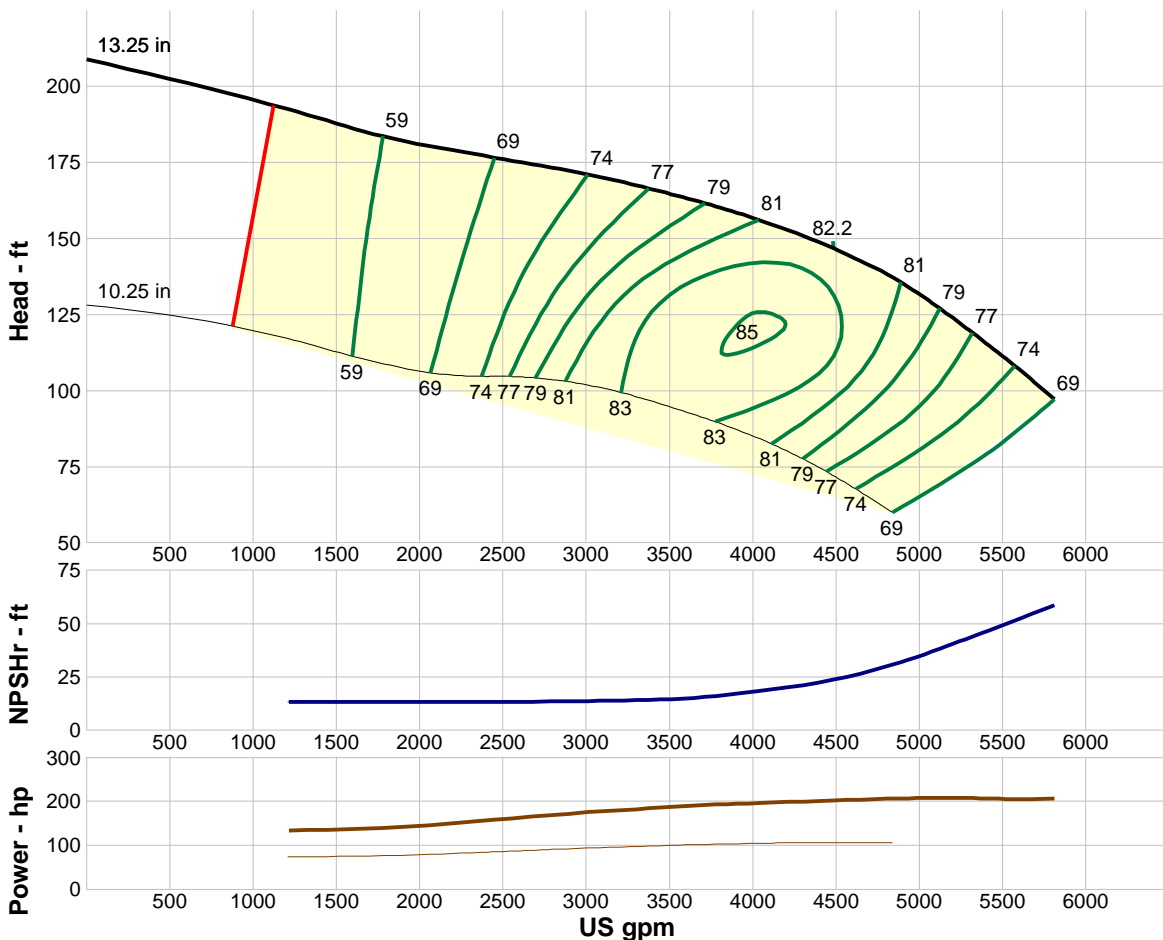
Size: 250 hp
 Speed: 1800
 Frame: 447T

Pump Limits:

Temperature: 250 °F
 Pressure: 400 psi g
 Sphere size: 1 in

Power: 500 hp
 Eye area: 48 in²

| ---- Data Point ---- | |
|------------------------|----------------------|
| Flow: | 4481 US gpm |
| Head: | 147 ft |
| Eff: | 82% |
| Power: | 202 hp |
| NPSHr: | 23.7 ft |
| ---- Design Curve ---- | |
| Shutoff head: | 209 ft |
| Shutoff dP: | 90.4 psi |
| Min flow: | 1120 US gpm |
| BEP: | 82% @ 4481 US gpm |
| NOL power: | 208 hp @ 5120 US gpm |
| -- Max Curve -- | |
| Max power: | 208 hp @ 5120 US gpm |



Performance Evaluation:

| Flow US gpm | Speed rpm | Head ft | Efficiency % | Power hp | NPSHr ft |
|----------------|--------------|------------|-----------------|-------------|-------------|
| 5573 | 1800 | 108 | 74 | 206 | 51.7 |
| 4644 | 1800 | 142 | 82 | 204 | 27.1 |
| 3715 | 1800 | 162 | 79 | 192 | 15.6 |
| 2786 | 1800 | 173 | 72 | 169 | 13.6 |
| 1858 | 1800 | 183 | 60 | 142 | 13.2 |