

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



**Pump:**

Size: NSI-VTP-02 (1 stage)  
 Type: Vertical Turbine  
 Synch speed: 1800 rpm  
 Curve:  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:

Speed: 1800 rpm  
 Dia: 11.375 in  
 Impeller: 750447-FA  
 Ns: ---  
 Nss: ---  
 Suction: ---  
 Discharge: 10 in  
 Bowl size: 15.5 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

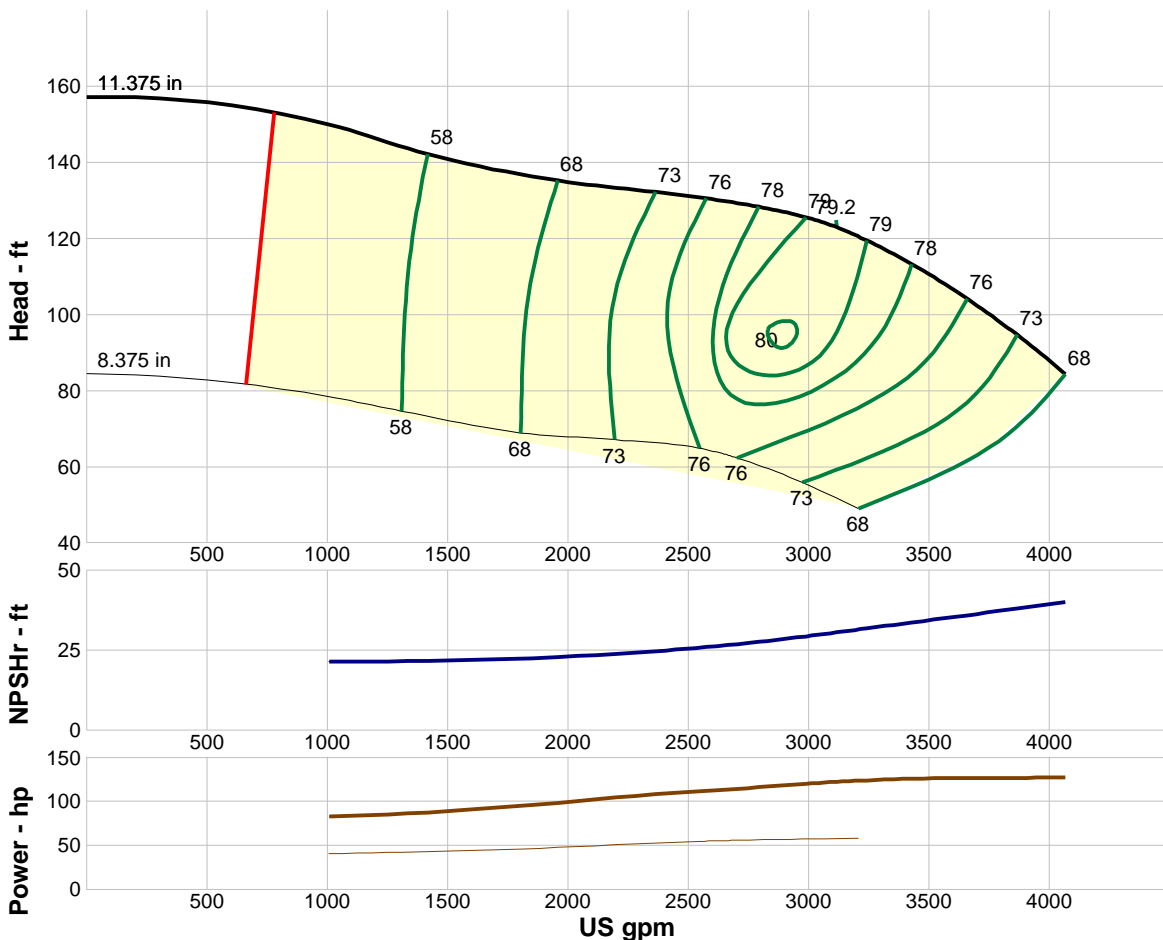
Size: 150 hp  
 Speed: 1800  
 Frame: 445T

**Pump Limits:**

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

Power: 500 hp  
 Eye area: 42.2 in²

---- Data Point ----	
Flow:	3115 US gpm
Head:	123 ft
Eff:	79%
Power:	122 hp
NPSHr:	30.6 ft
---- Design Curve ----	
Shutoff head:	157 ft
Shutoff dP:	68 psi
Min flow:	779 US gpm
BEP:	79% @ 3115 US gpm
NOL power:	127 hp @ 4066 US gpm
-- Max Curve --	
Max power:	127 hp @ 4066 US gpm



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
3904	1800	92.7	72	127	38.4
3253	1800	119	79	124	32
2602	1800	130	76	112	26.2
1952	1800	135	68	98.2	22.9
1301	1800	144	55	86.4	21.7