

Company: Northstar Industries  
 Name: PUMP CURVE - 11"  
 Date: 3/12/2015



**Pump:**

Size: NSI-VTP-01 (1 stage)  
 Type: Vertical Turbine  
 Synch speed: 1800 rpm  
 Curve:  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:

Speed: 1800 rpm  
 Dia: 10 in  
 Impeller: 750441-FA  
 Ns: ---  
 Nss: ---  
 Suction: ---  
 Discharge: 8 in  
 Bowl size: 13.5 in  
 Max lateral: ---  
 Thrust K factor: 1.2 lb/ft

**Search Criteria:**

Flow: --- Head: ---

**Fluid:**

Water  
 Density: 62.32 lb/ft<sup>3</sup>  
 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

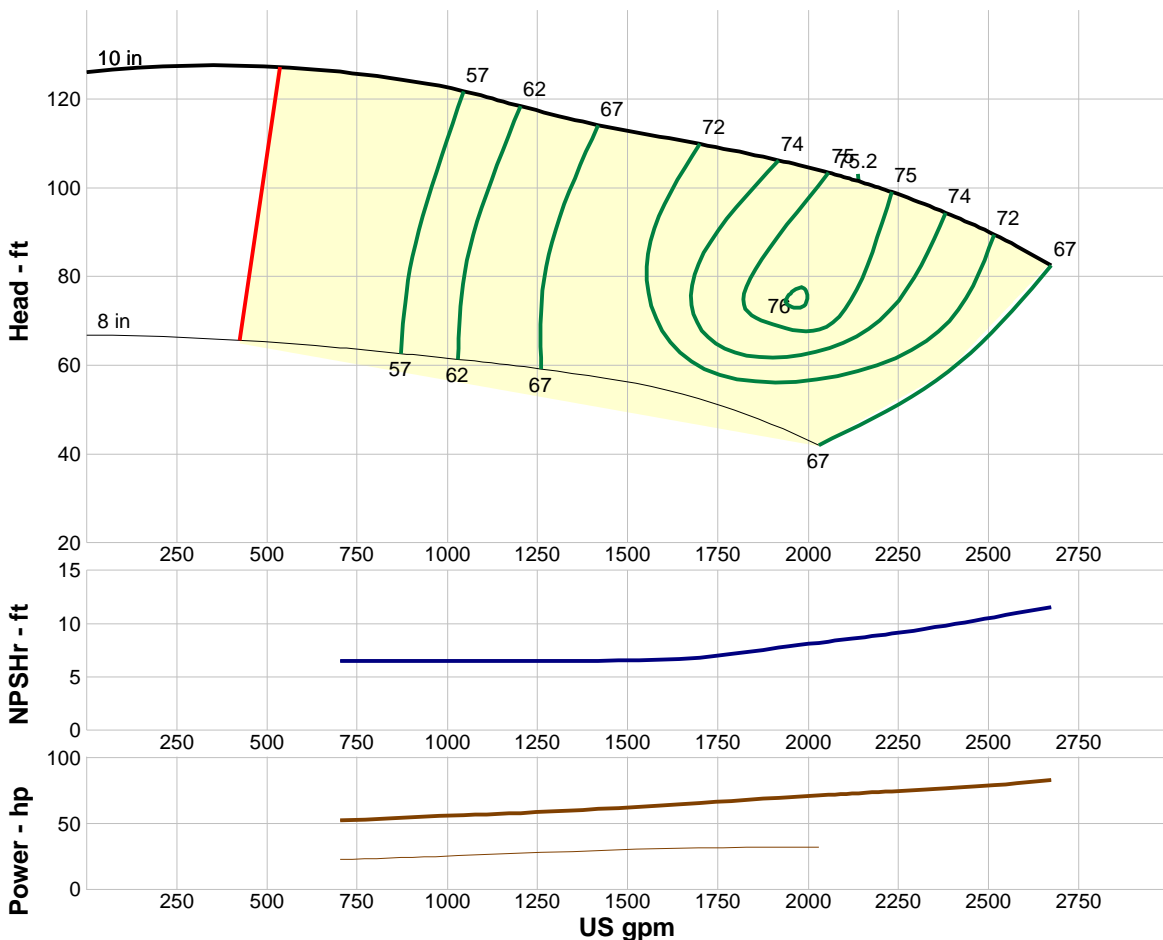
Size: 100 hp  
 Speed: 1800  
 Frame: 405T

**Pump Limits:**

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

Power: 500 hp  
 Eye area: 31 in<sup>2</sup>

---- Data Point ----	
Flow:	2137 US gpm
Head:	101 ft
Eff:	75%
Power:	72.8 hp
NPSHr:	8.68 ft
---- Design Curve ----	
Shutoff head:	126 ft
Shutoff dP:	54.6 psi
Min flow:	534 US gpm
BEP:	75% @ 2137 US gpm
NOL power:	83 hp @ 2671 US gpm
-- Max Curve --	
Max power:	83 hp @ 2671 US gpm



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
2564	1800	87.2	70	80.2	10.9
2137	1800	101	75	72.8	8.68
1710	1800	110	72	65.7	6.88
1282	1800	117	64	59	6.5
855	1800	124	49	54	6.49