

Pump Performance Curves

UNDERSTANDING PUMP PERFORMANCE CURVES

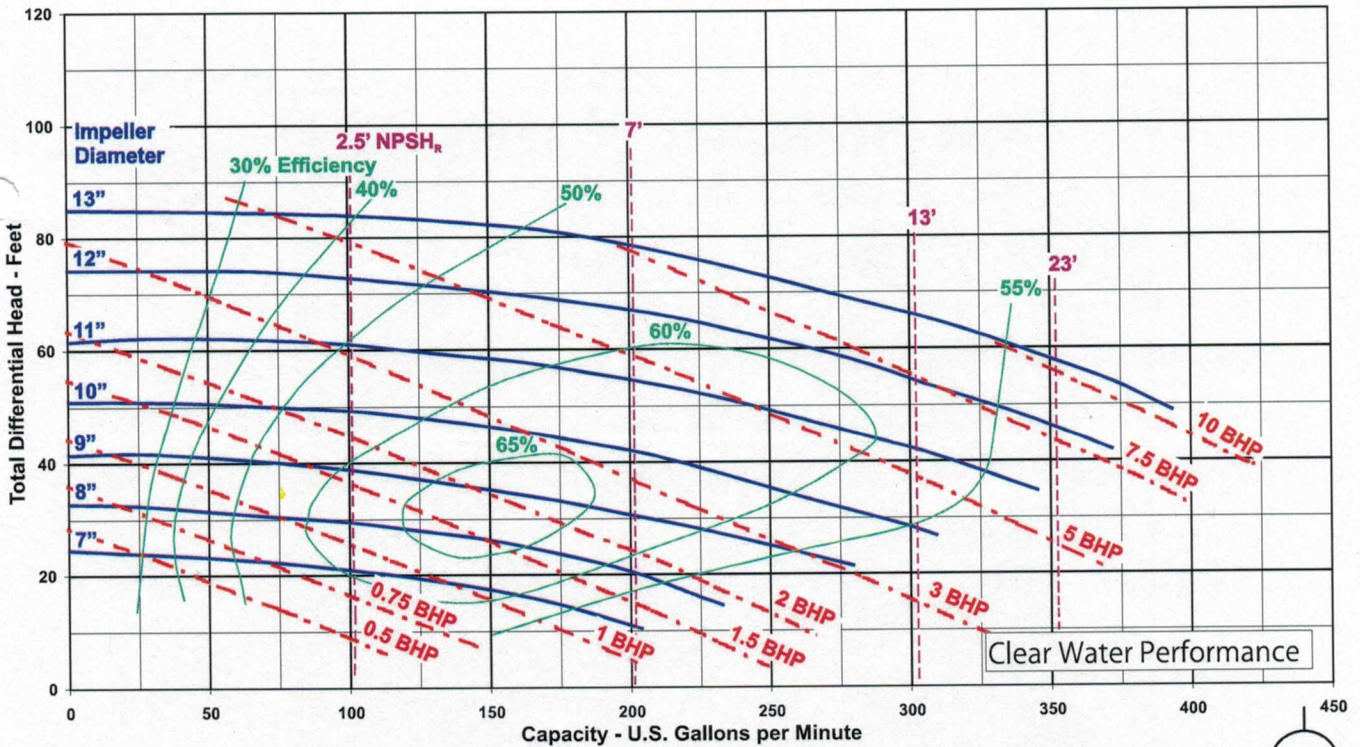
The head vs. flow curves on the following pages give you the performance of the Magnum, 2500 Supreme, Magnum Vertical, 2500 Vertical and Sandmaster pumps at various speeds and with various impeller sizes. The horsepower (HP) rating is based on pumping water with a specific gravity of 1.0. The flow is measured in US liquid gallons per minute (GPM). The total differential head is measured in feet. There are also a series of Efficiency and Net Positive Suction Head Required (NPSHr) lines showing the pump hydraulic efficiency and minimum NPSHr. The performance curves are plotted based on actual test results for each size of pumps running at various RPM and with various impeller sizes.

To determine the HP required for your system you will need to determine the Specific Gravity (Sp.Gr.) of the fluid being transferred and then multiply the Sp.Gr. by the HP shown on the curve. To determine Sp.Gr.:

$$\text{Specific Gravity} = \frac{\text{ppg of fluid}}{8.34}$$

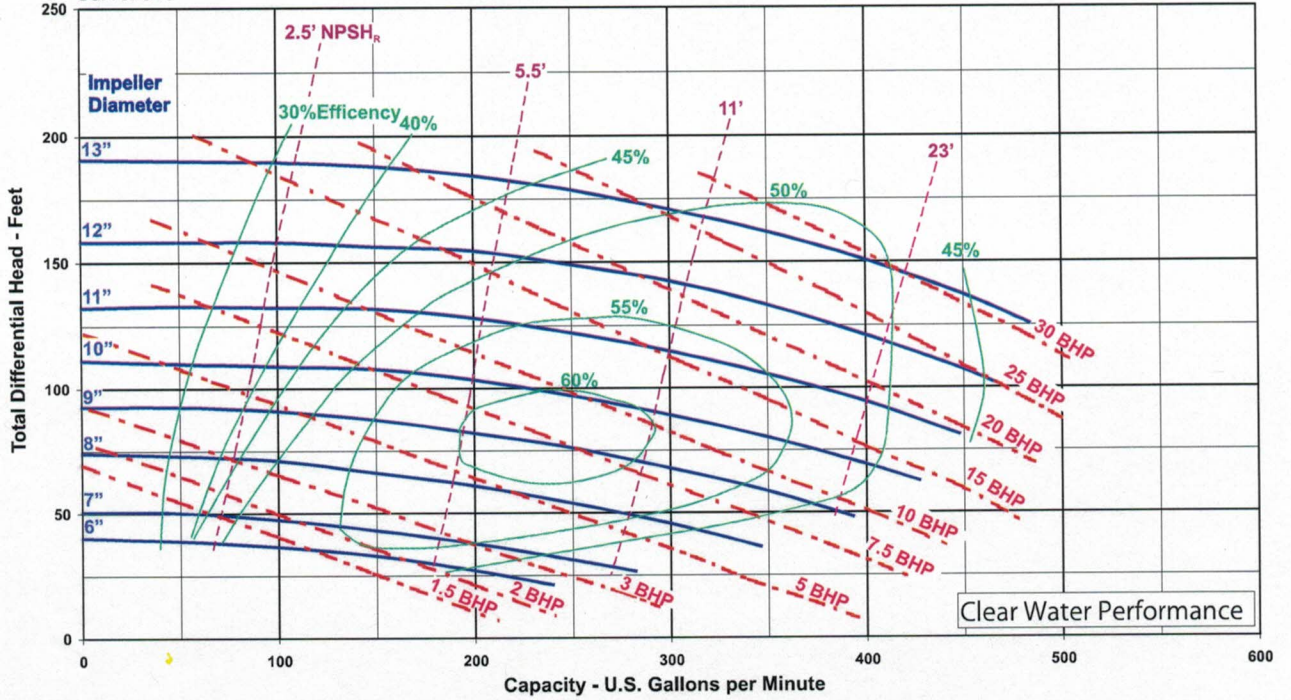
Magnum I
 3X2X13
 Speed: 1150 RPM
 Curve: 944

Open Impeller
 Dia: 7" to 13"
 Eye Area: 7.1 Sq. In.
 Max Sphere: 1/2 In.



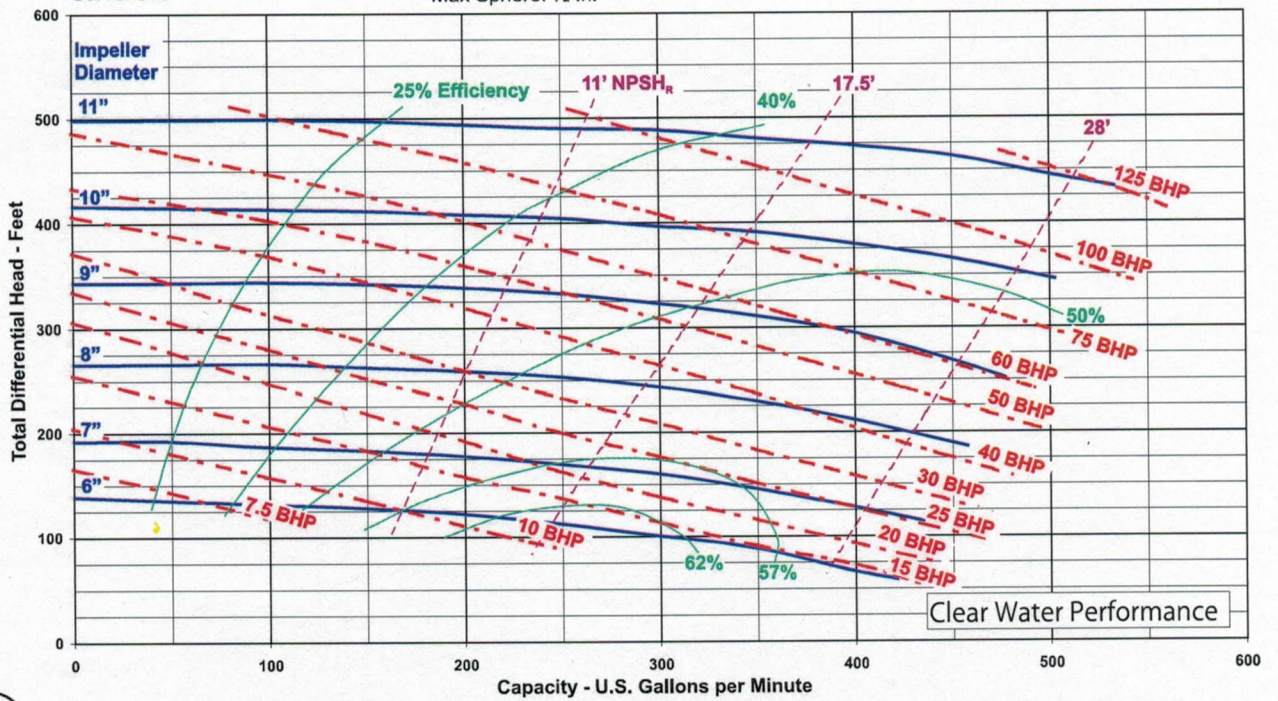
Magnum I
 3X2X13
 Speed: 1750 RPM
 Curve: 945

Open Impeller
 Dia: 6" to 13"
 Eye Area: 7.1 Sq. In.
 Max Sphere: 1/2 In.



Magnum I
 3X2X13
 Speed: 3500 RPM
 Curve: 946

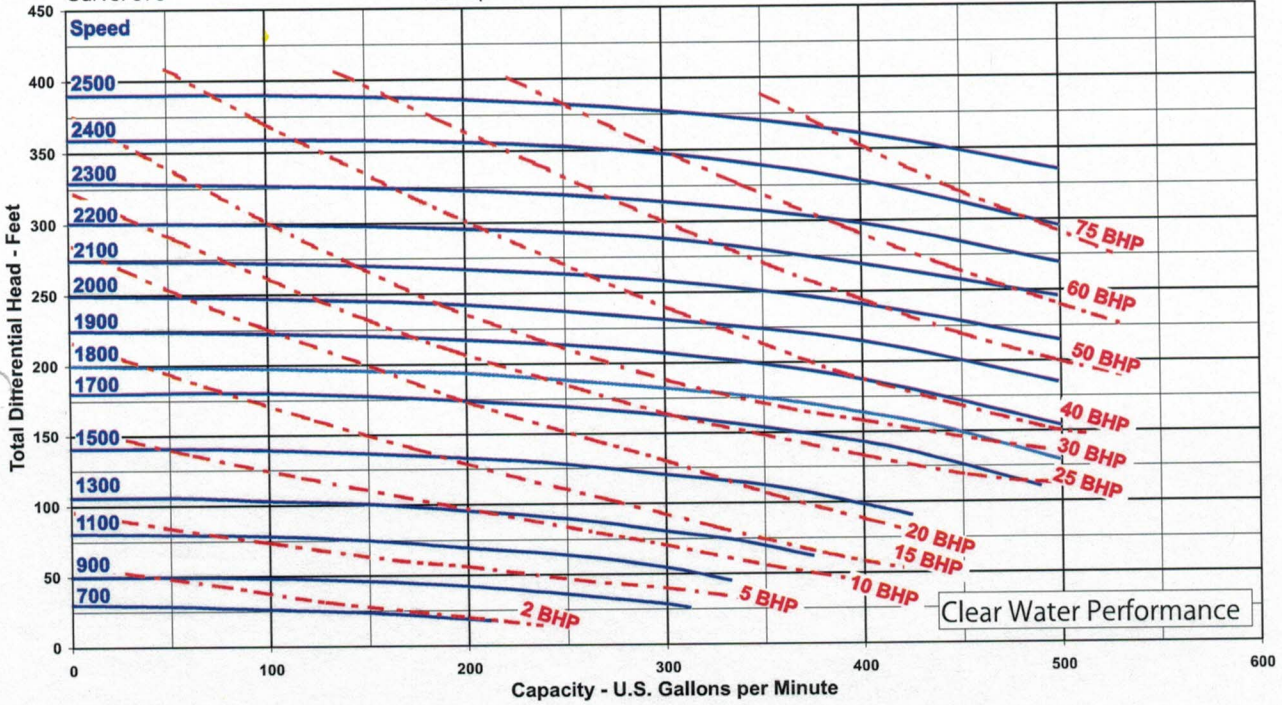
Open Impeller
 Dia: 6" to 11"
 Eye Area: 7.1 Sq. In.
 Max Sphere: 1/2 In.



MISSION™ PRODUCTS

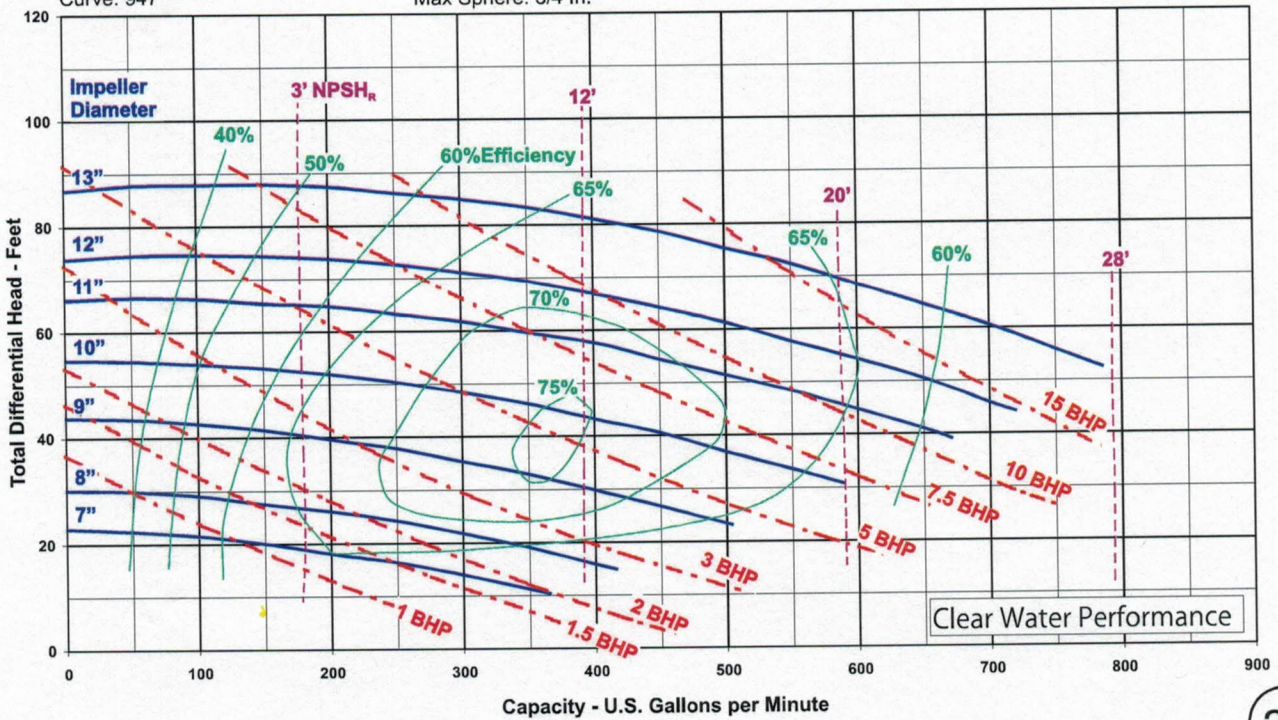
Magnum I
 3X2X13
 Speed: 700-2500 RPM
 Curve: 976

Open Impeller
 Dia: 13"
 Eye Area: 7.1 Sq. In.
 Max Sphere: 1/2 In.



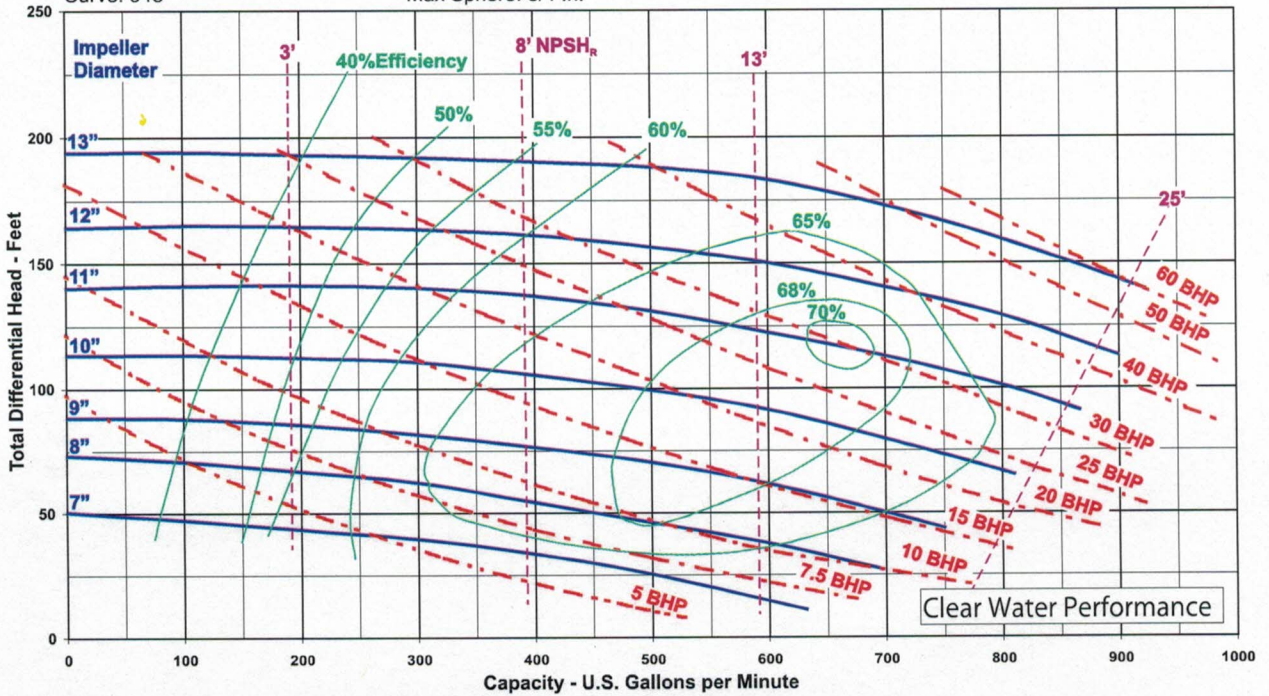
Magnum I
 4X3X13
 Speed: 1150 RPM
 Curve: 947

Open Impeller
 Dia: 7" to 13"
 Eye Area: 12.5 Sq. In.
 Max Sphere: 3/4 In.



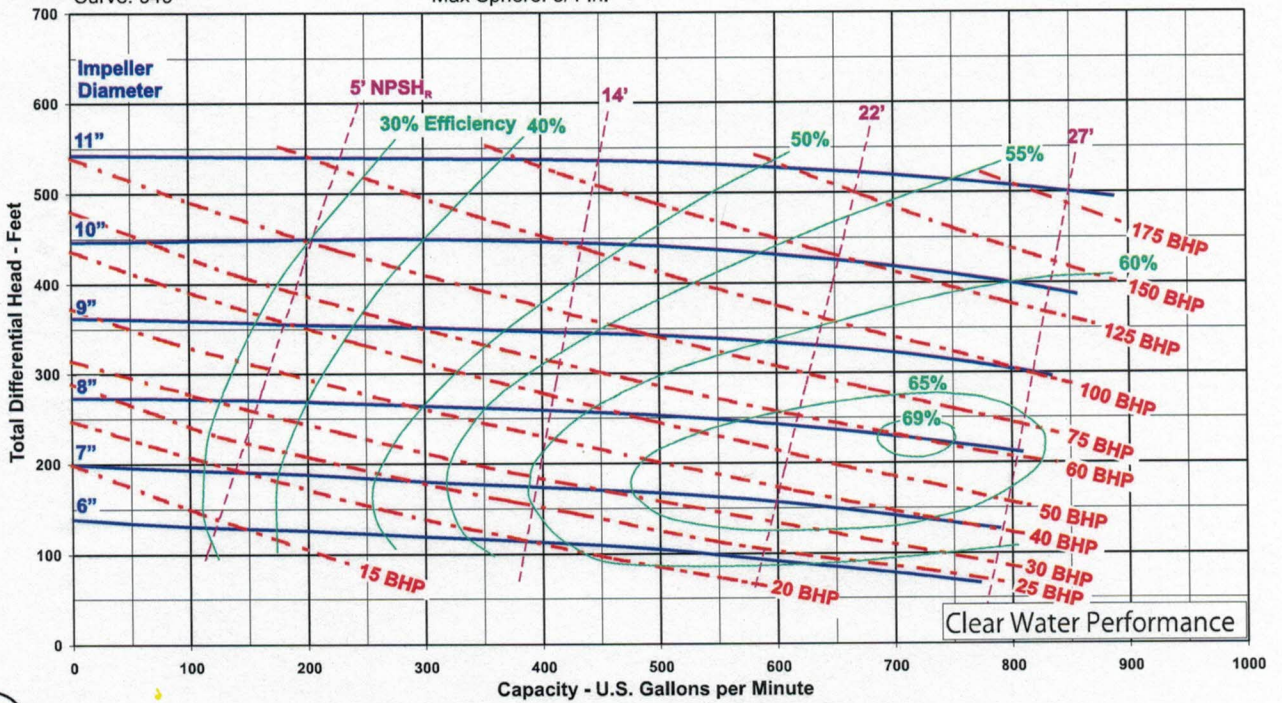
Magnum I
 4X3X13
 Speed: 1750 RPM
 Curve: 948

Open Impeller
 Dia: 7" to 13"
 Eye Area: 12.5 Sq. In.
 Max Sphere: 3/4 In.



Magnum I
 4X3X13
 Speed: 3500 RPM
 Curve: 949

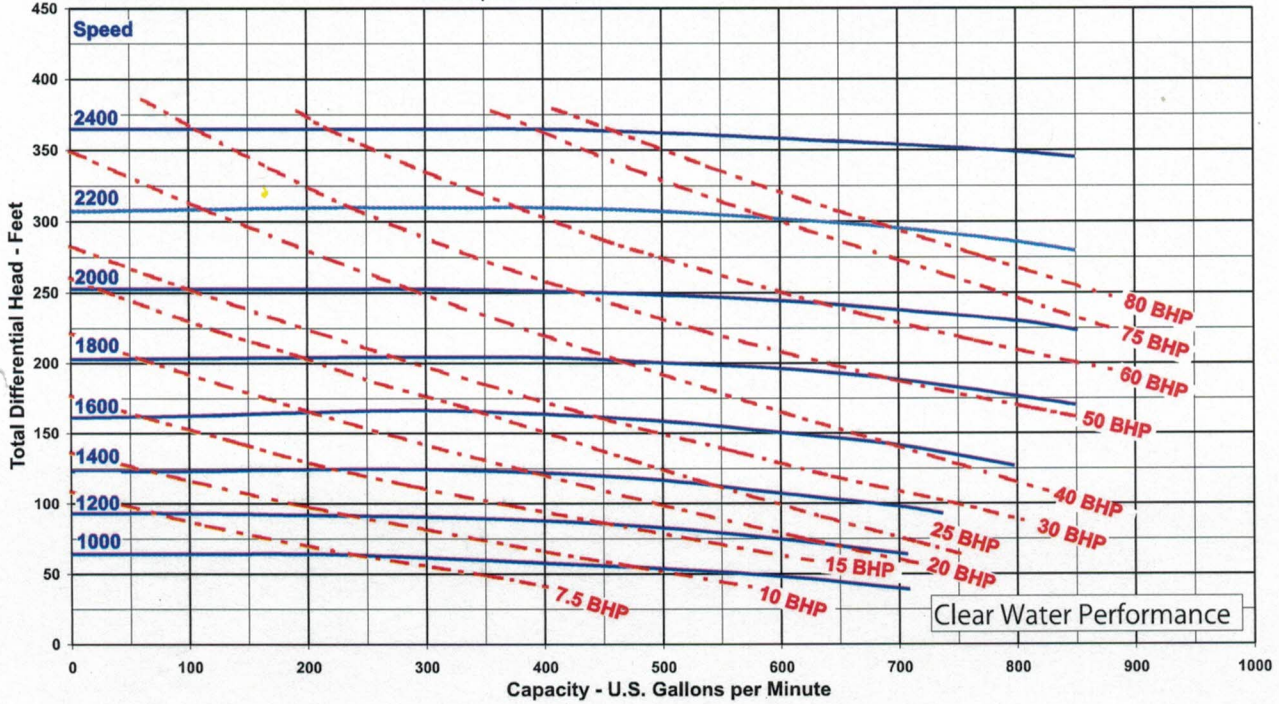
Open Impeller
 Dia: 6" to 11"
 Eye Area: 12.5 Sq. In.
 Max Sphere: 3/4 In.



MISSION™ PRODUCTS

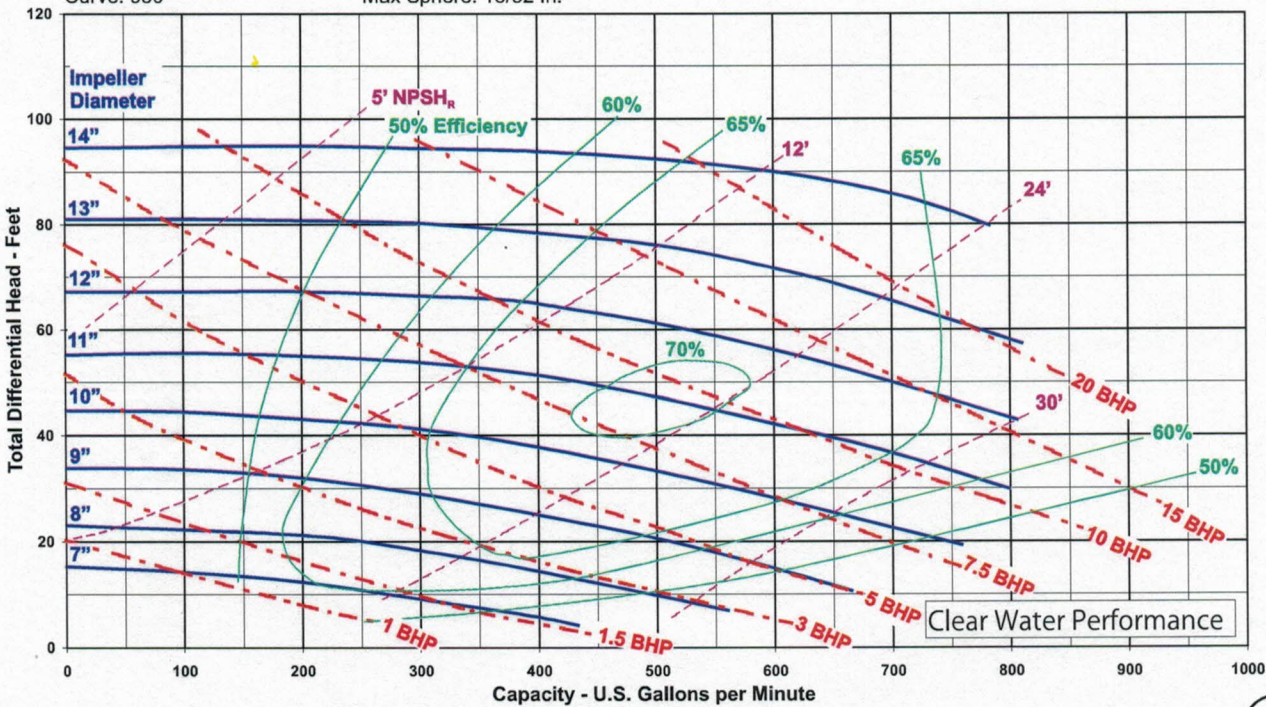
Magnum I
 4X3X13
 Speed: 1000-2400 RPM
 Curve: 977

Open Impeller
 Dia: 13"
 Eye Area: 12.5 Sq. In.
 Max Sphere: 3/4 In.



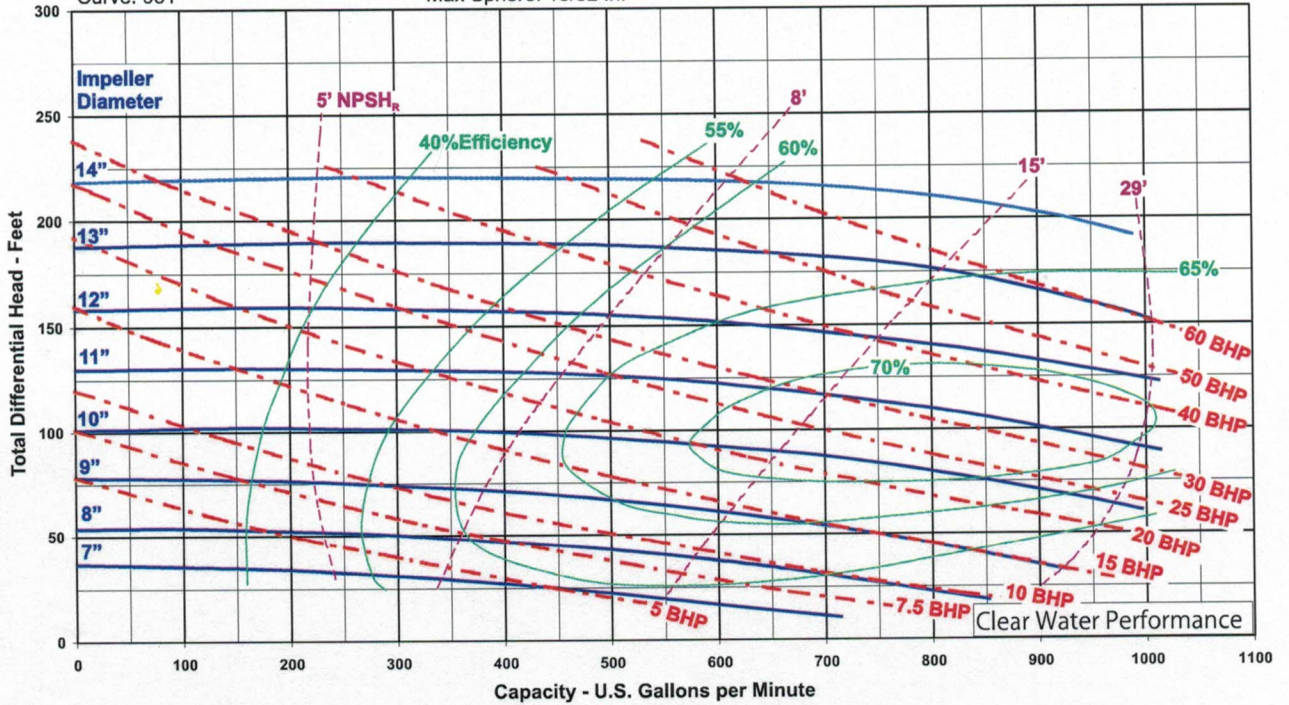
Magnum I
 5X4X14
 Speed: 1150 RPM
 Curve: 950

Open Impeller
 Dia: 7" to 14"
 Eye Area: 19.6 Sq. In.
 Max Sphere: 13/32 In.



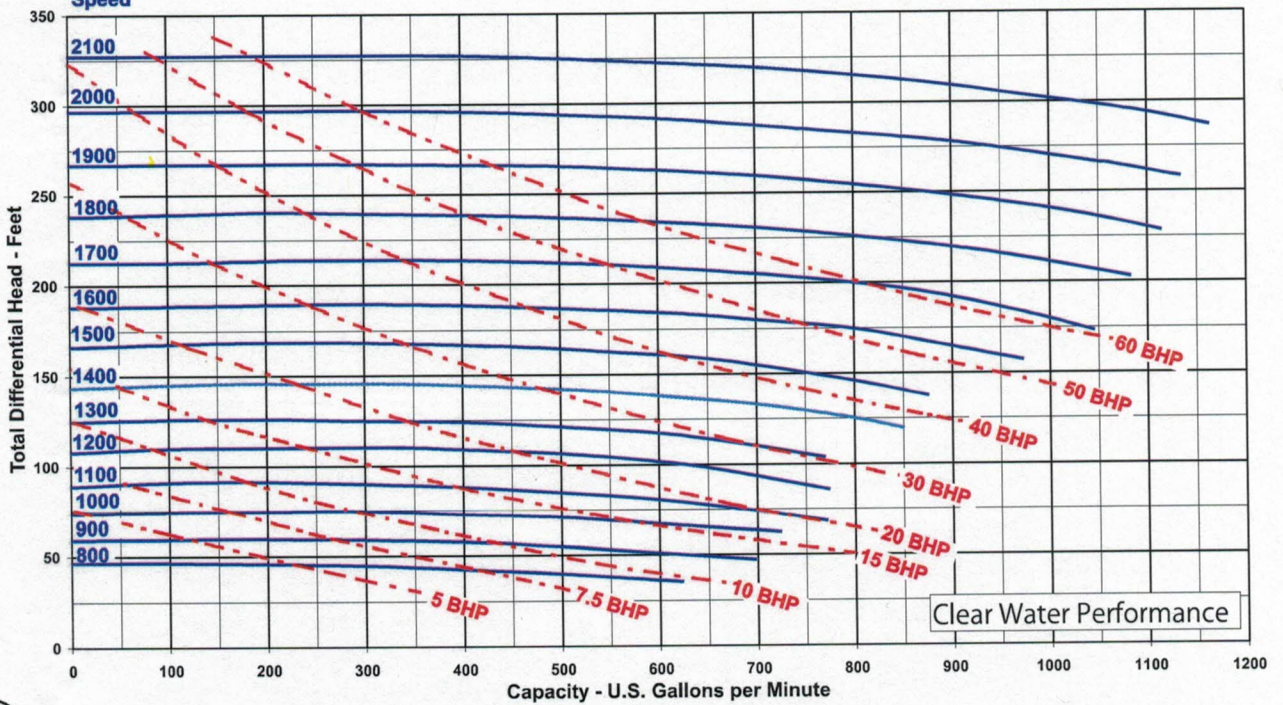
Magnum I
 5X4X14
 Speed: 1750 RPM
 Curve: 951

Open Impeller
 Dia: 7" to 14"
 Eye Area: 19.6 Sq. In.
 Max Sphere: 13/32 In.



Magnum I
 5X4X14
 Speed: 800-2100 RPM
 Curve: 978
Speed

Open Impeller
 Dia: 14"
 Eye Area: 19.6 Sq. In.
 Max Sphere: 13/32 In.

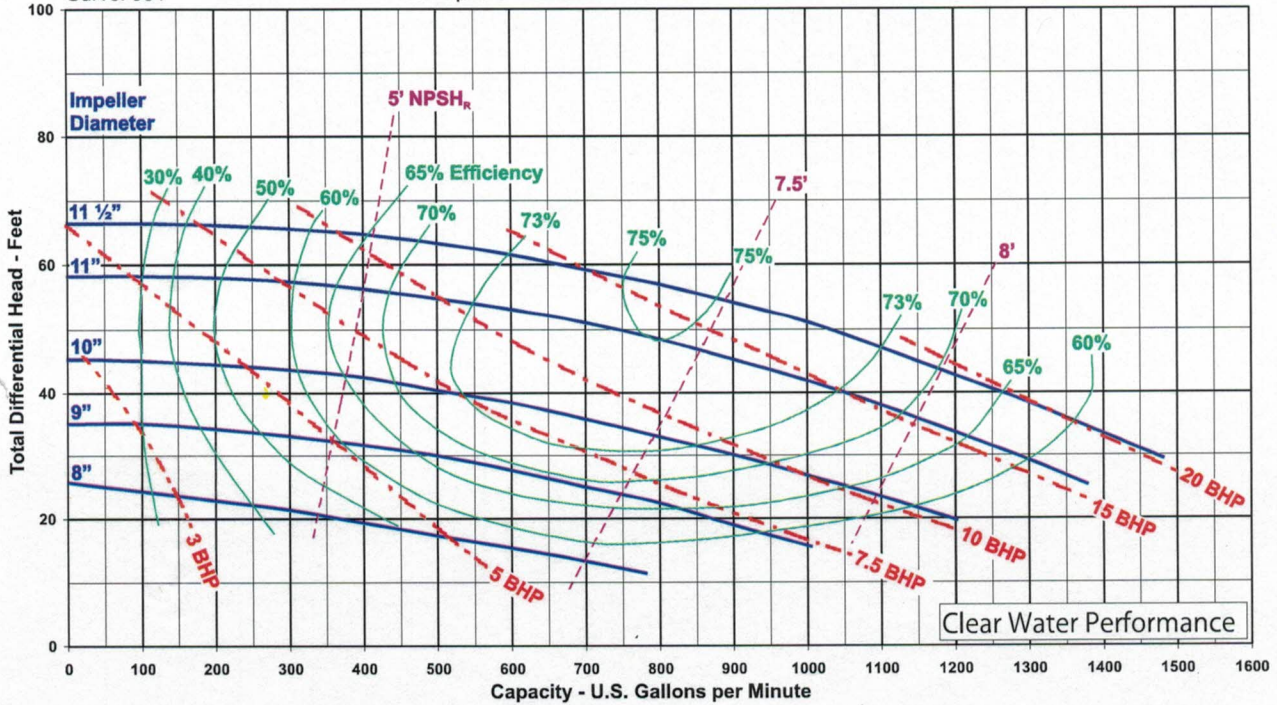


MISSION™ PRODUCTS

Magnum I

6X5X11
Speed: 1150 RPM
Curve: 954

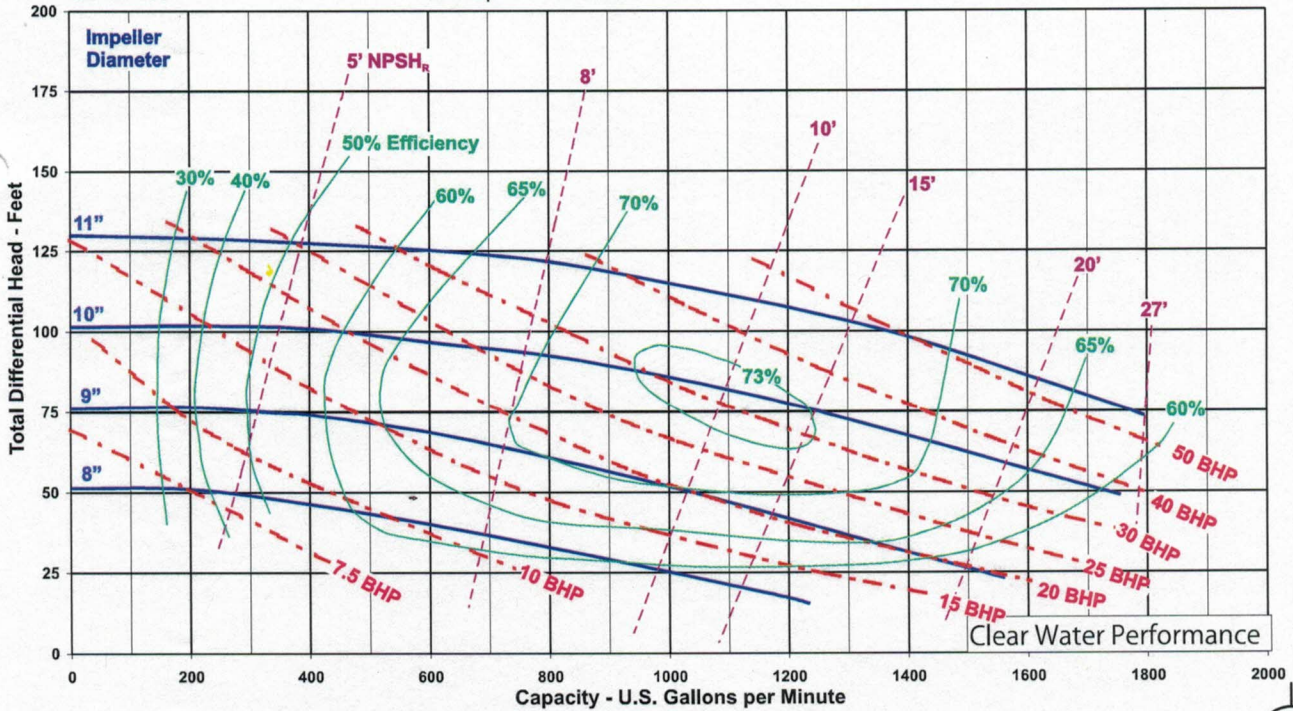
Open Impeller
Dia: 8" to 11 1/2"
Eye Area: 28.3 Sq. In.
Max Sphere: 15/16 In.



Magnum I

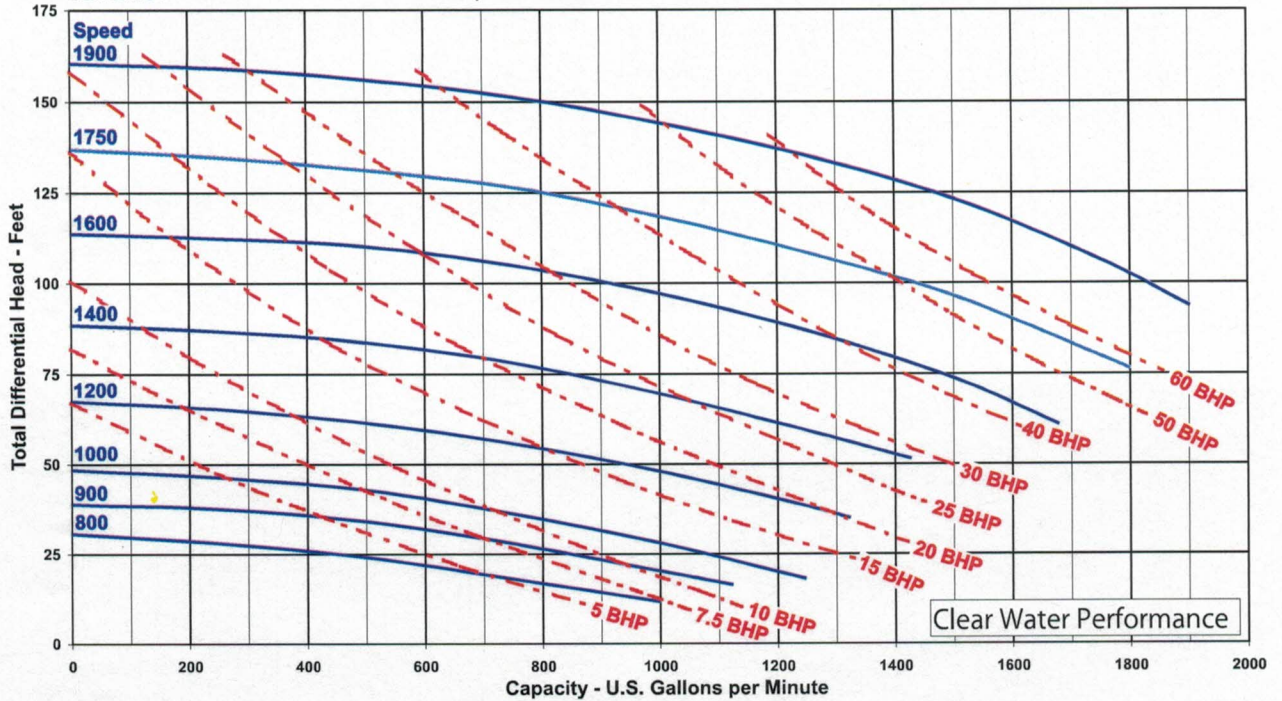
6X5X11
Speed: 1750 RPM
Curve: 955

Open Impeller
Dia: 8" to 11"
Eye Area: 28.3 Sq. In.
Max Sphere: 15/16 In.



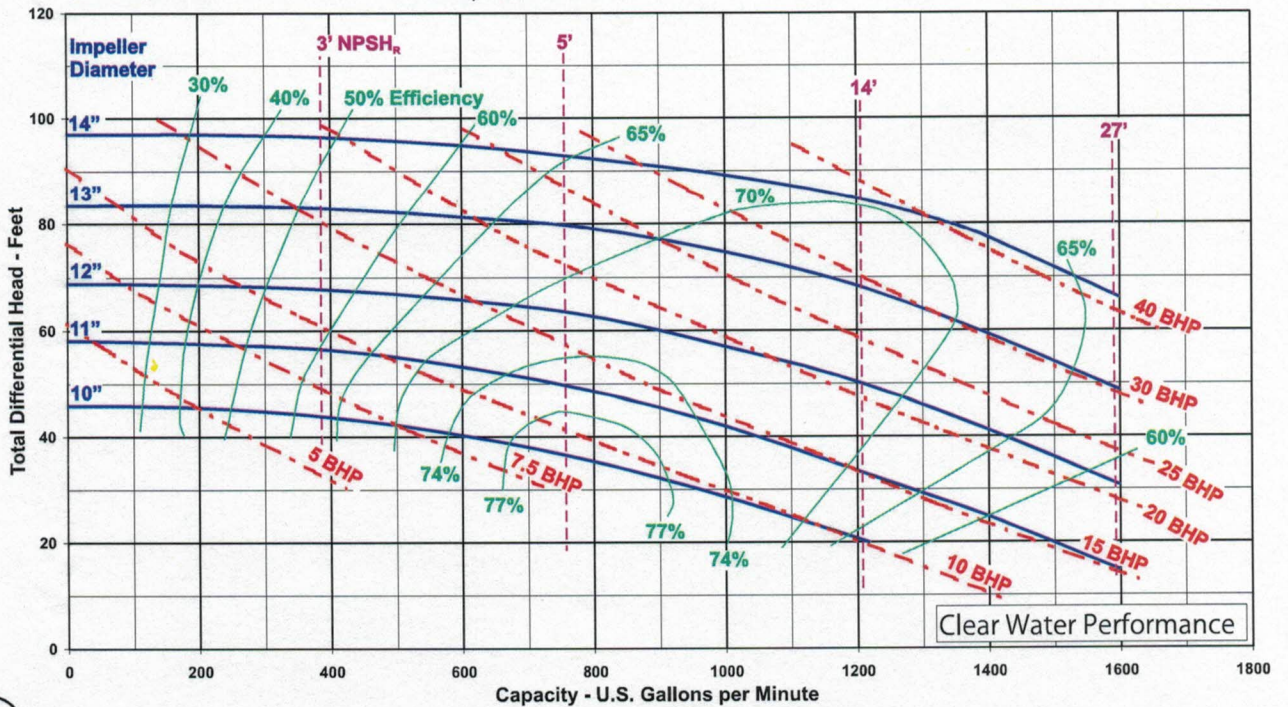
Magnum I
 6X5X11
 Speed: 800 - 1900 RPM
 Curve: 981

Open Impeller
 Dia: 11"
 Eye Area: 28.3 Sq. In.
 Max Sphere: 15/16 In.



Magnum I
 6X5X14
 Speed: 1150 RPM
 Curve: 952

Open Impeller
 Dia: 10" to 14"
 Eye Area: 28.3 Sq. In.
 Max Sphere: 15/16 In.

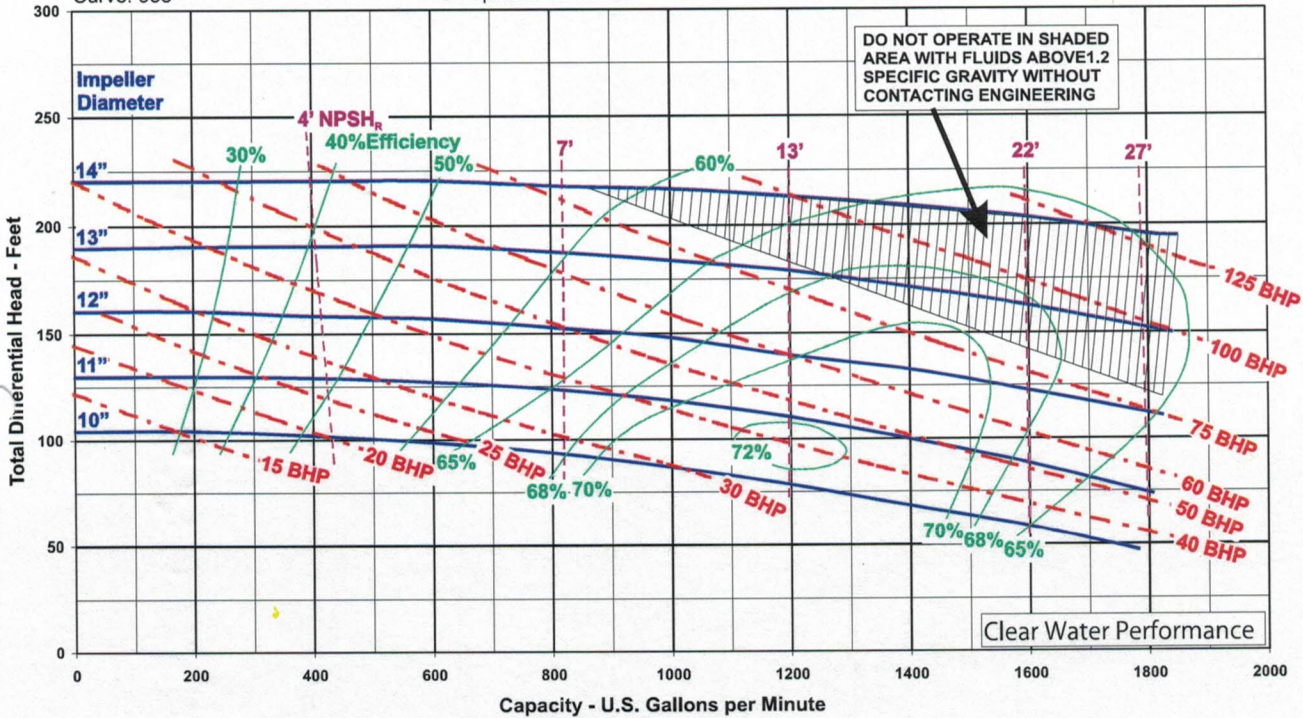


MISSION™ PRODUCTS

Magnum I

6X5X14
Speed: 1750 RPM
Curve: 953

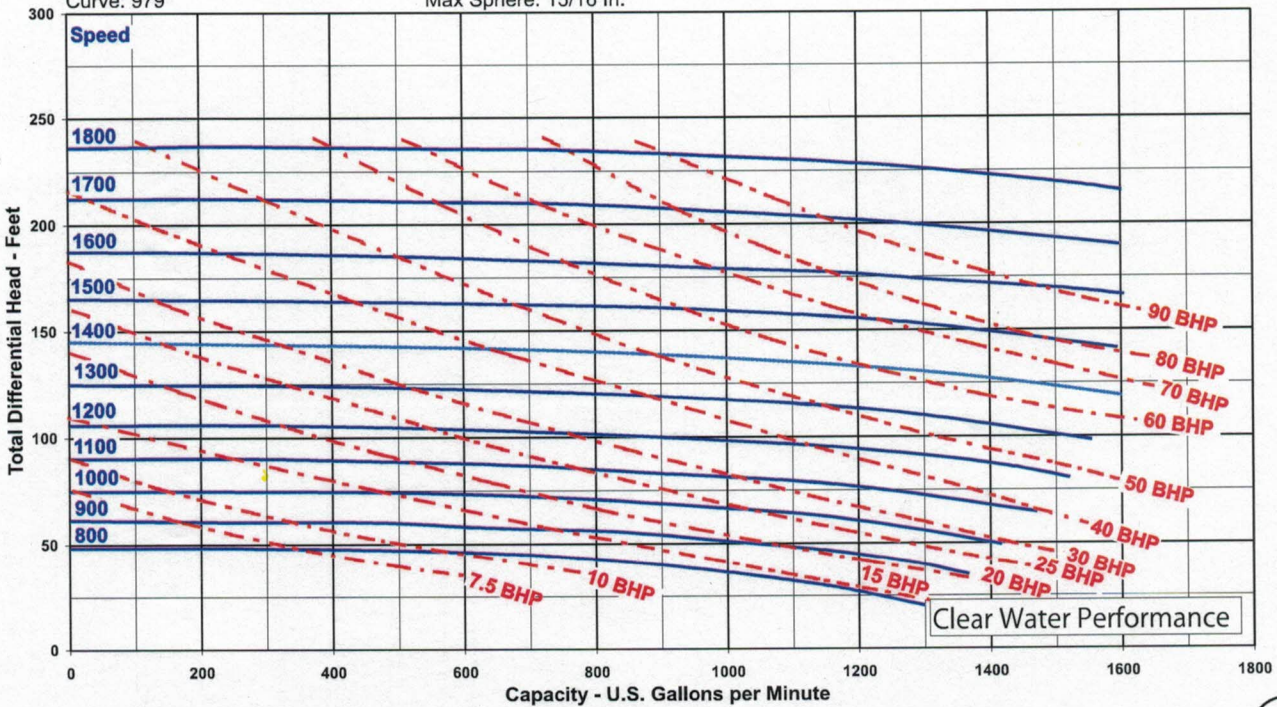
Open Impeller
Dia: 10" to 14"
Eye Area: 28.3 Sq. In.
Max Sphere: 15/16 In.



Magnum I

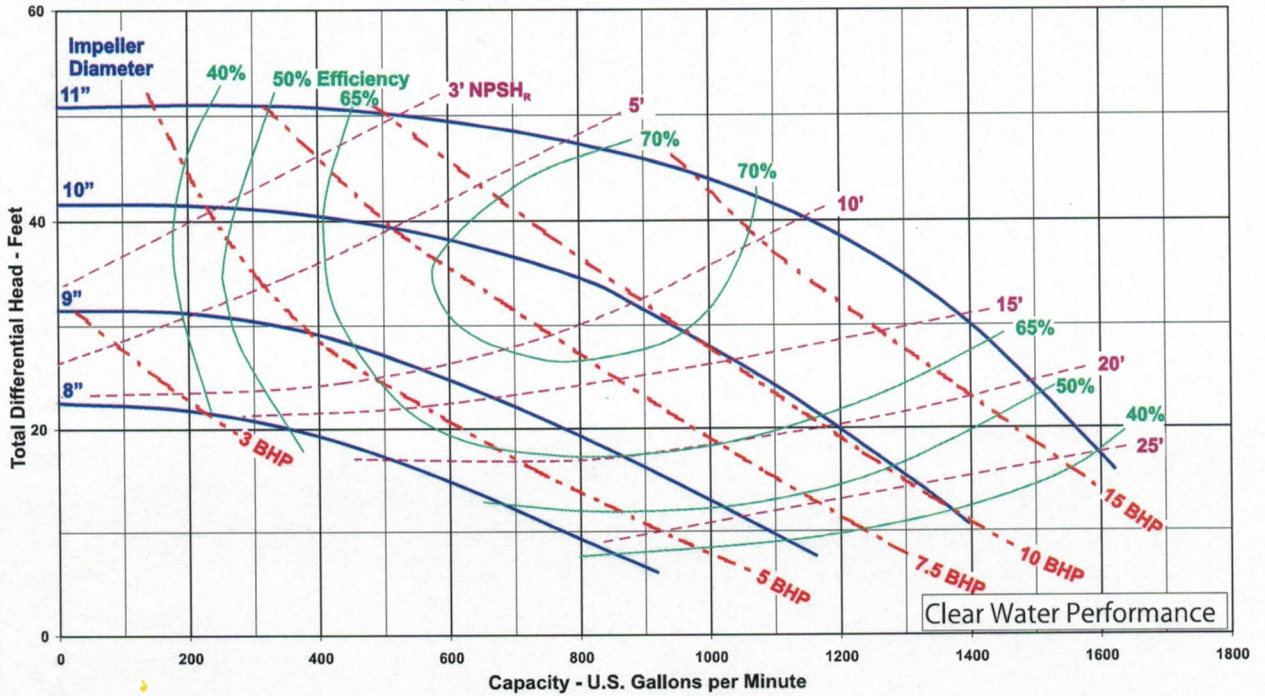
6X5X14
Speed: 800 - 1800 RPM
Curve: 979

Open Impeller
Dia: 14"
Eye Area: 28.3 Sq. In.
Max Sphere: 15/16 In.



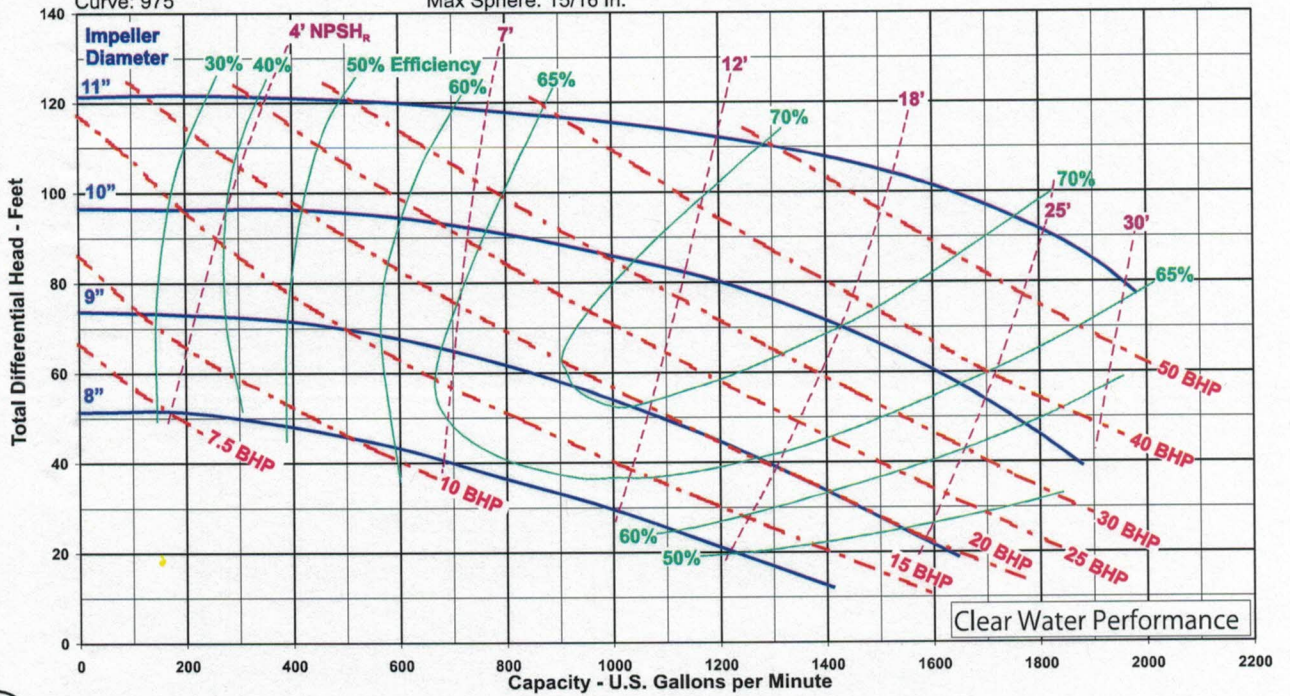
Magnum I
 8X6X11
 Speed: 1150 RPM
 Curve: 974

Open Impeller
 Dia: 8" to 11"
 Eye Area: 28.3 Sq. In.
 Max Sphere: 15/16 In.



Magnum I
 8X6X11
 Speed: 1750 RPM
 Curve: 975

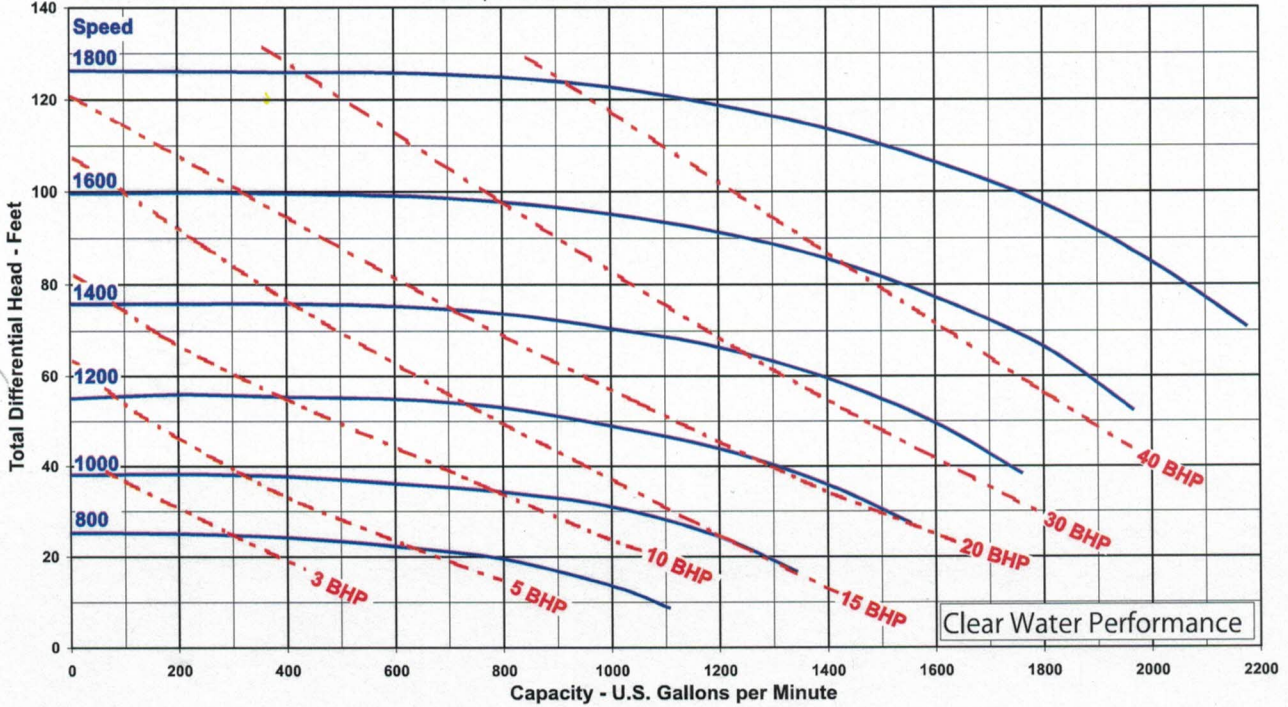
Open Impeller
 Dia: 8" to 11"
 Eye Area: 28.3 Sq. In.
 Max Sphere: 15/16 In.



MISSION™ PRODUCTS

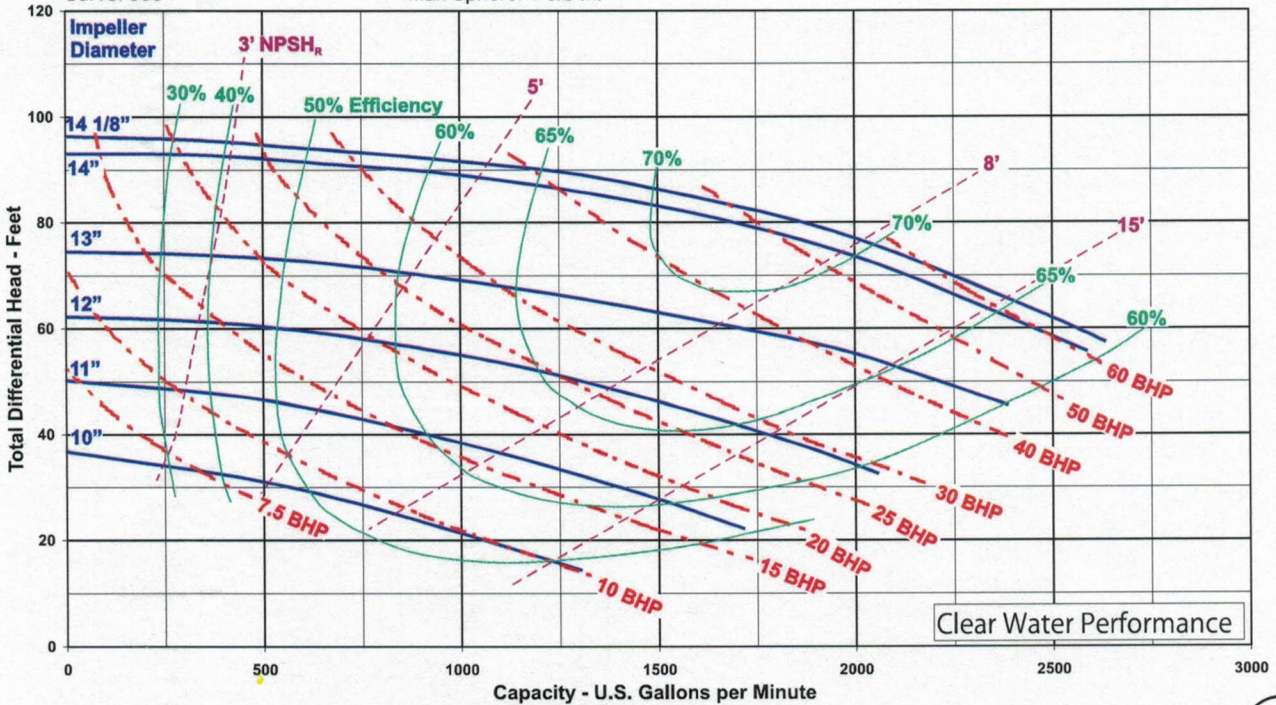
Magnum I
 8X6X11
 Speed: 800 - 1800 RPM
 Curve: 982

Open Impeller
 Dia: 11"
 Eye Area: 28.3 Sq. In.
 Max Sphere: 15/16 In.



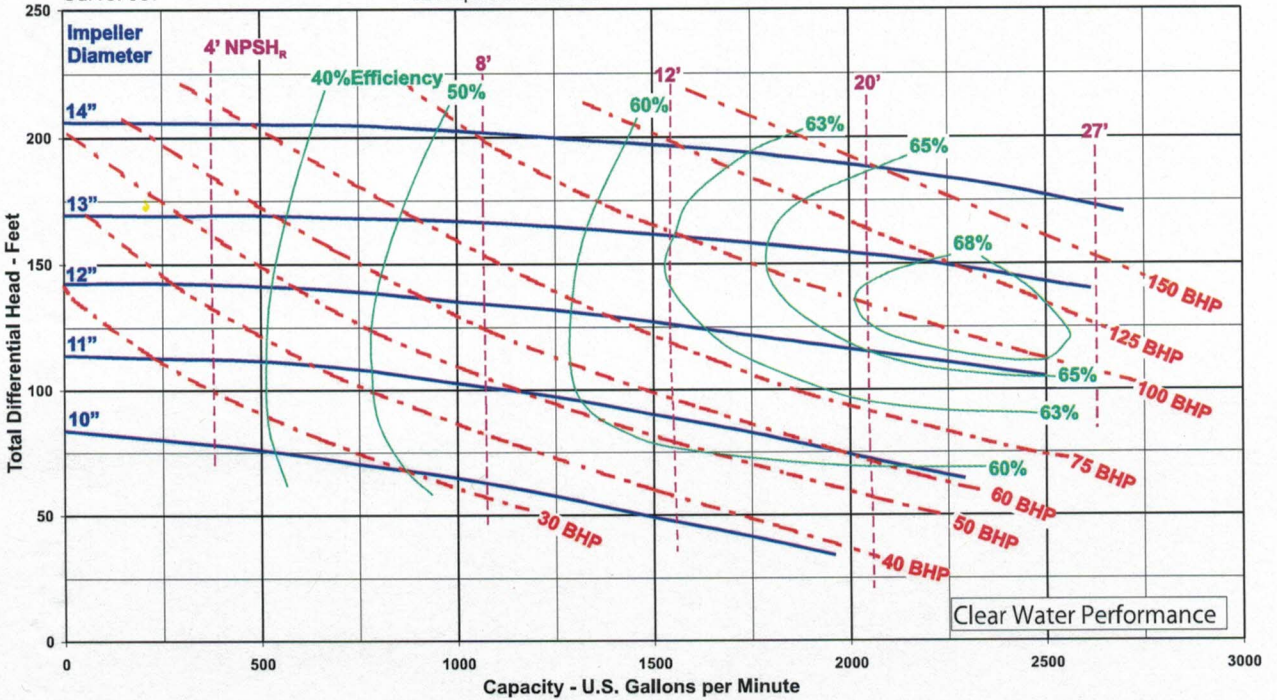
Magnum I
 8X6X14
 Speed: 1150 RPM
 Curve: 956

Open Impeller
 Dia: 10" to 14 1/8"
 Eye Area: 50.3 Sq. In.
 Max Sphere: 1 3/8 In.



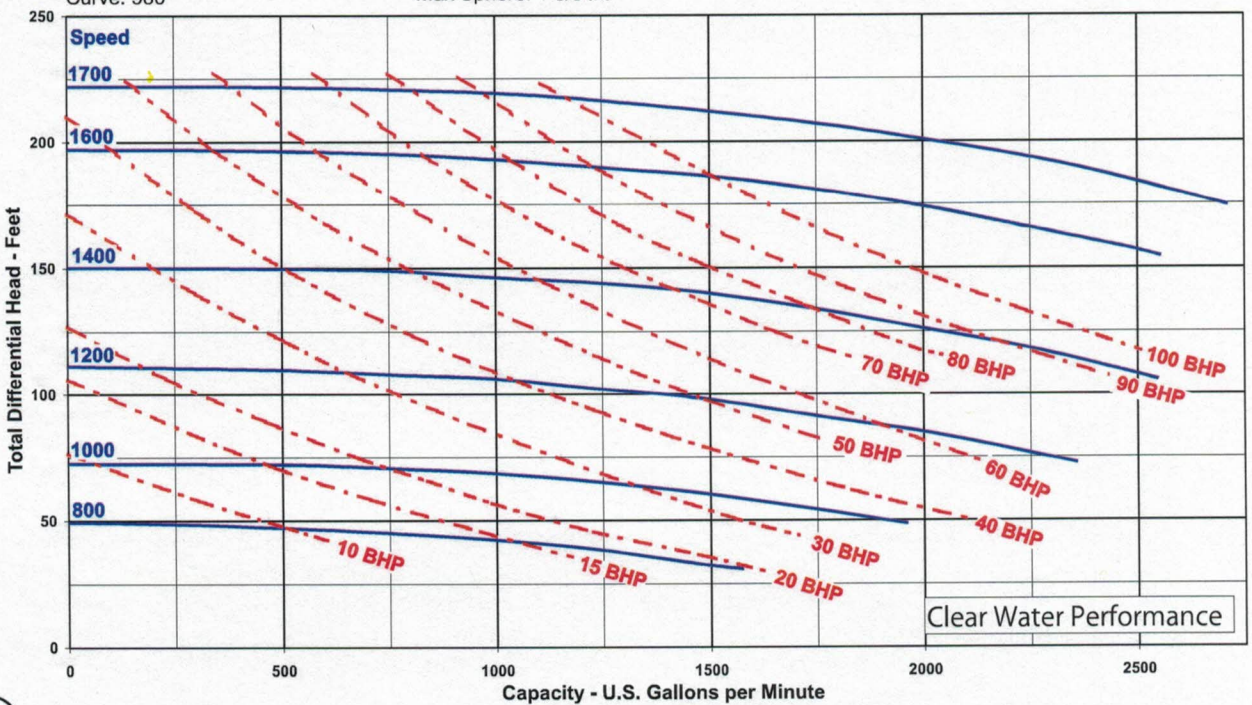
Magnum I
 8X6X14
 Speed: 1750 RPM
 Curve: 957

Open Impeller
 Dia: 10" to 14"
 Eye Area: 50.3 Sq. In.
 Max Sphere: 1 3/8 In.



Magnum I
 8X6X14
 Speed: 800 - 1700 RPM
 Curve: 980

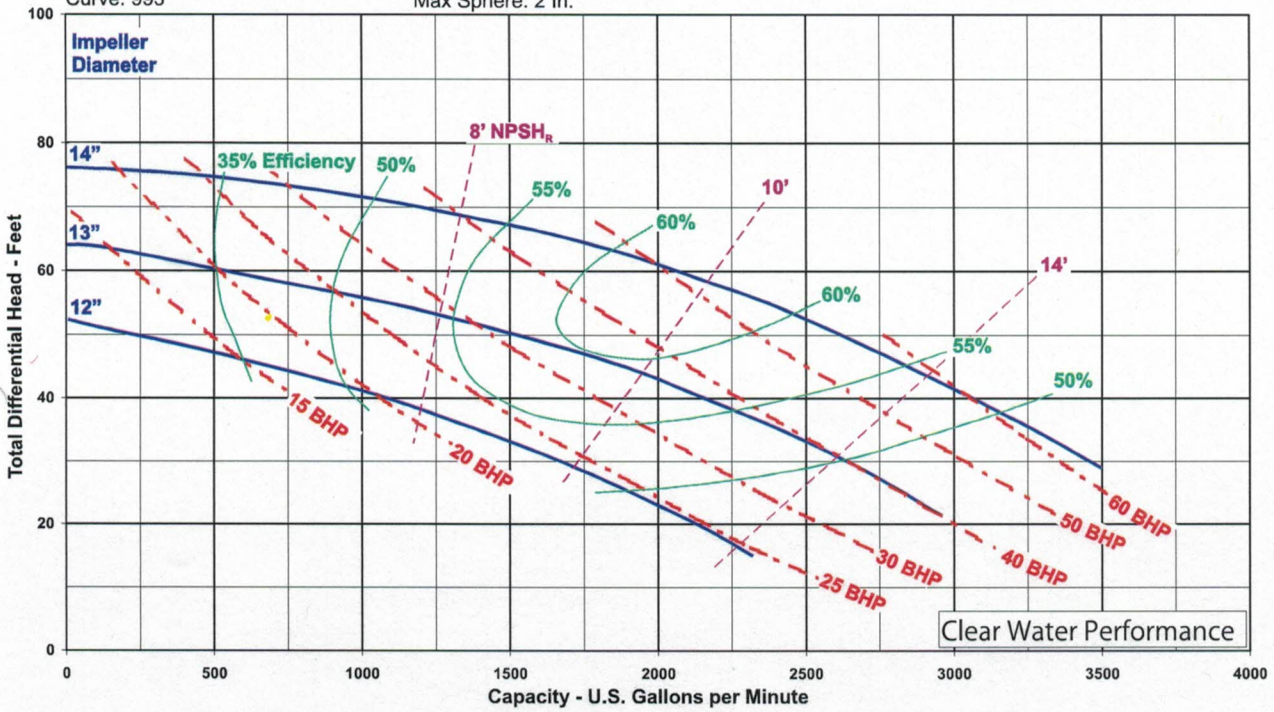
Open Impeller
 Dia: 14 1/8"
 Eye Area: 50.3 Sq. In.
 Max Sphere: 1 3/8 In.



MISSION™ PRODUCTS

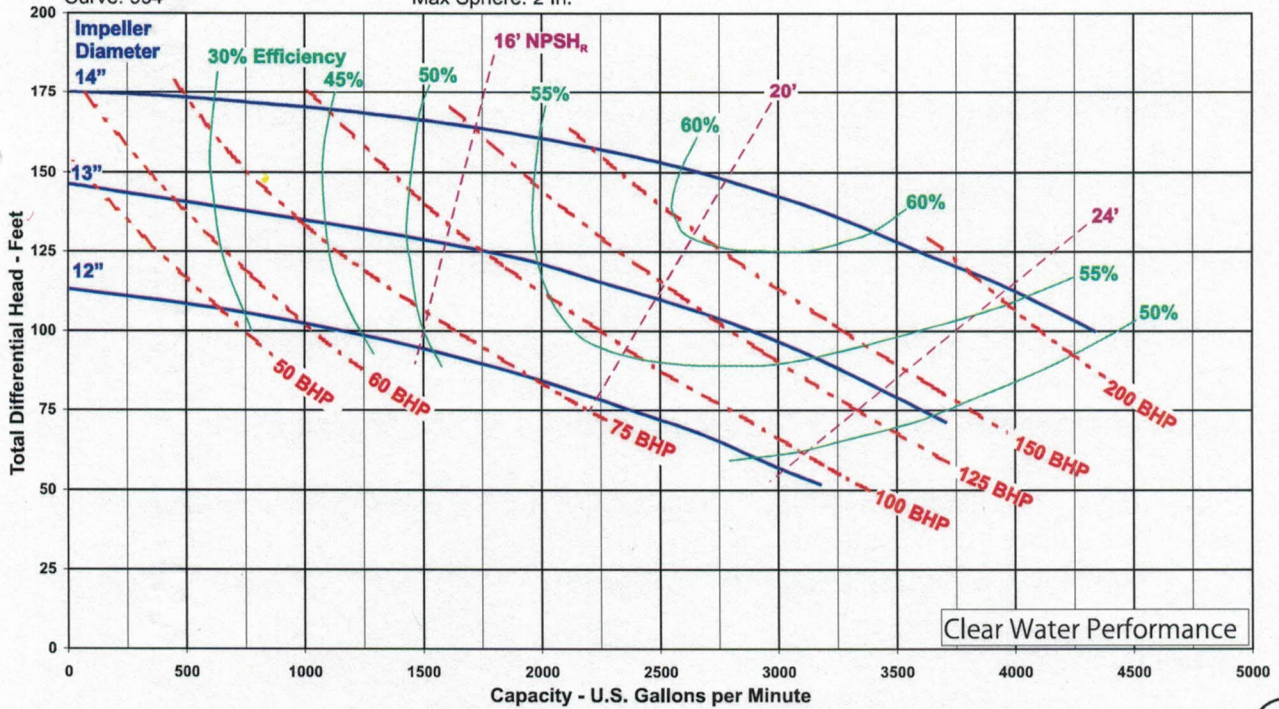
Magnum I
10X8X14
Speed: 1150 RPM
Curve: 993

Open Impeller
Dia: 12" to 14"
Eye Area: 63 Sq. In.
Max Sphere: 2 In.



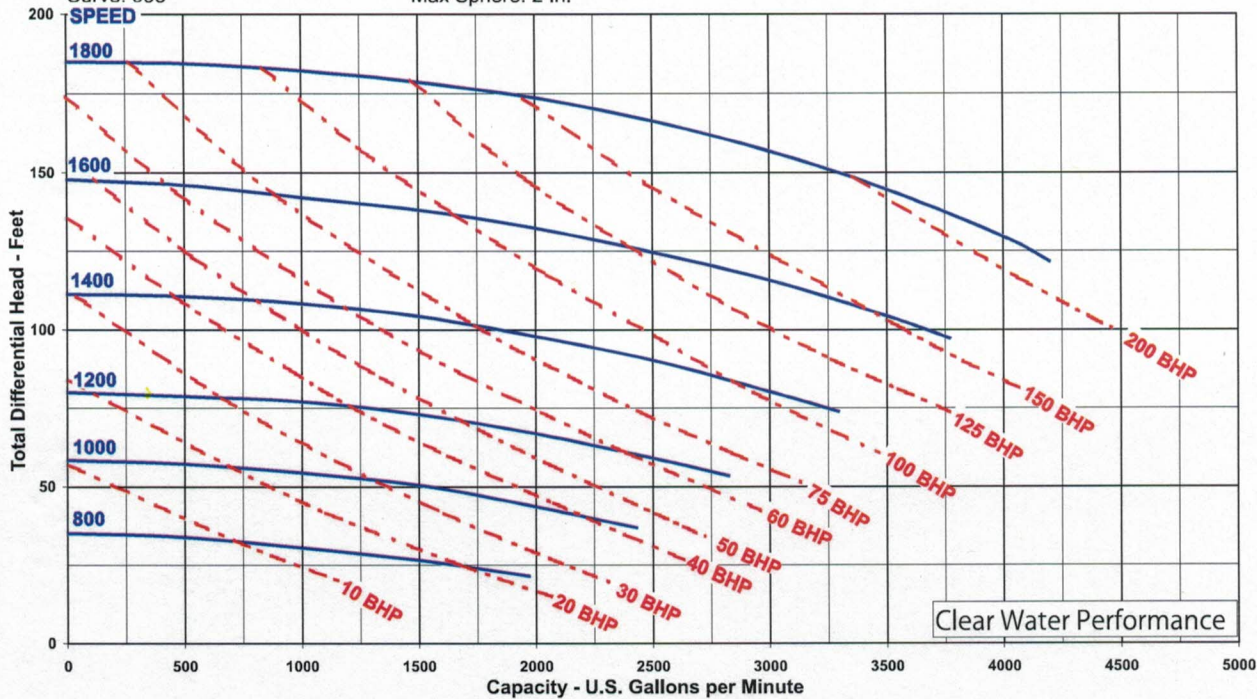
Magnum I
10X8X14
Speed: 1750 RPM
Curve: 994

Open Impeller
Dia: 12" to 14"
Eye Area: 63 Sq. In.
Max Sphere: 2 In.



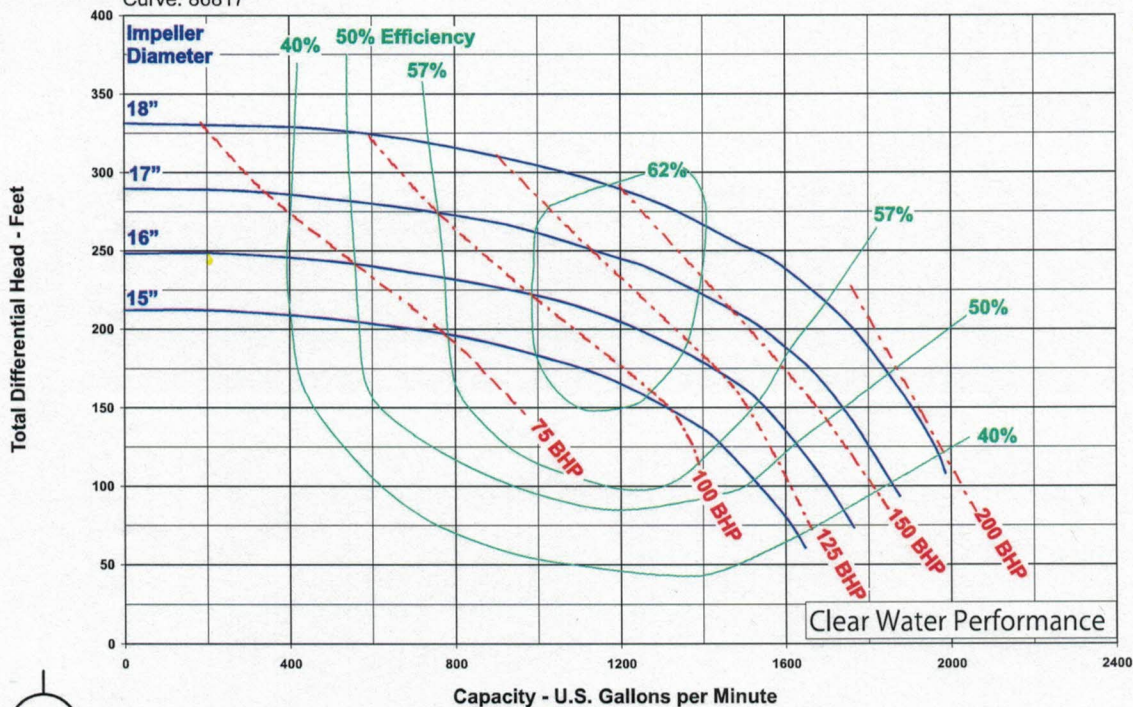
Magnum I
 10X8X14
 Speed: 800-1800 RPM
 Curve: 995

Open Impeller
 Dia: 14 1/8"
 Eye Area: 63 Sq. In.
 Max Sphere: 2 In.



Magnum XP
 8X6X18
 Speed: 1750 RPM
 Curve: 86817

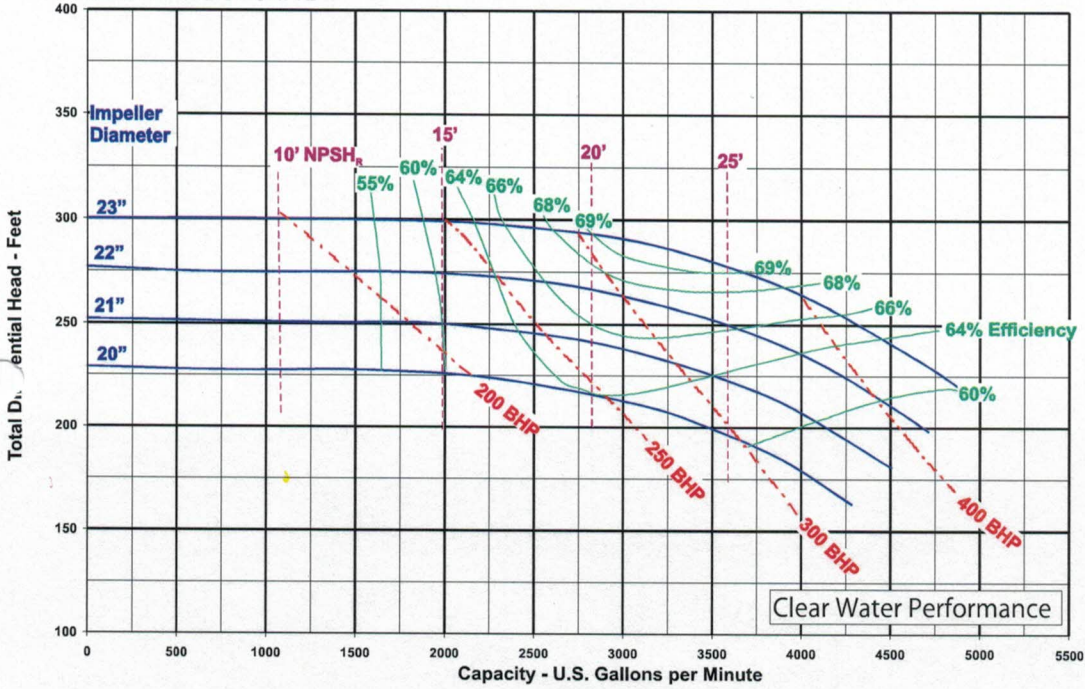
Open Impeller
 Dia: 15" to 18"
 Max Sphere: 3/4"



MISSION™ PRODUCTS

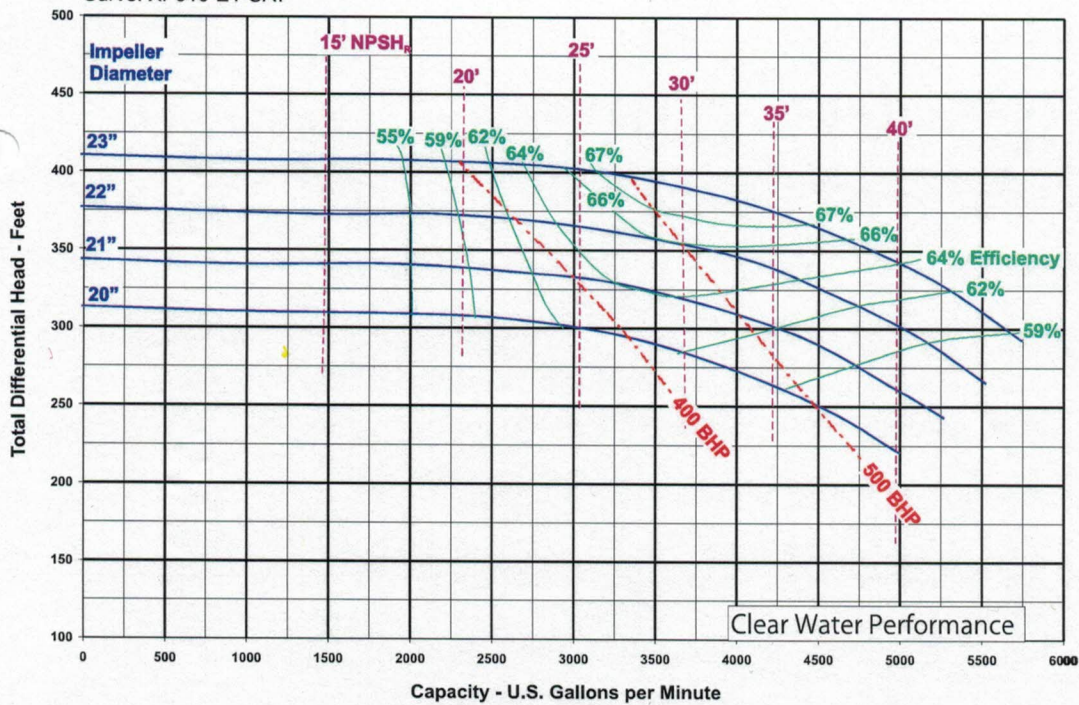
Magnum XP
12X10X23
Speed: 1200 RPM
Curve: XP010-C1-CATV2

Open Impeller
Dia: 20" to 23"



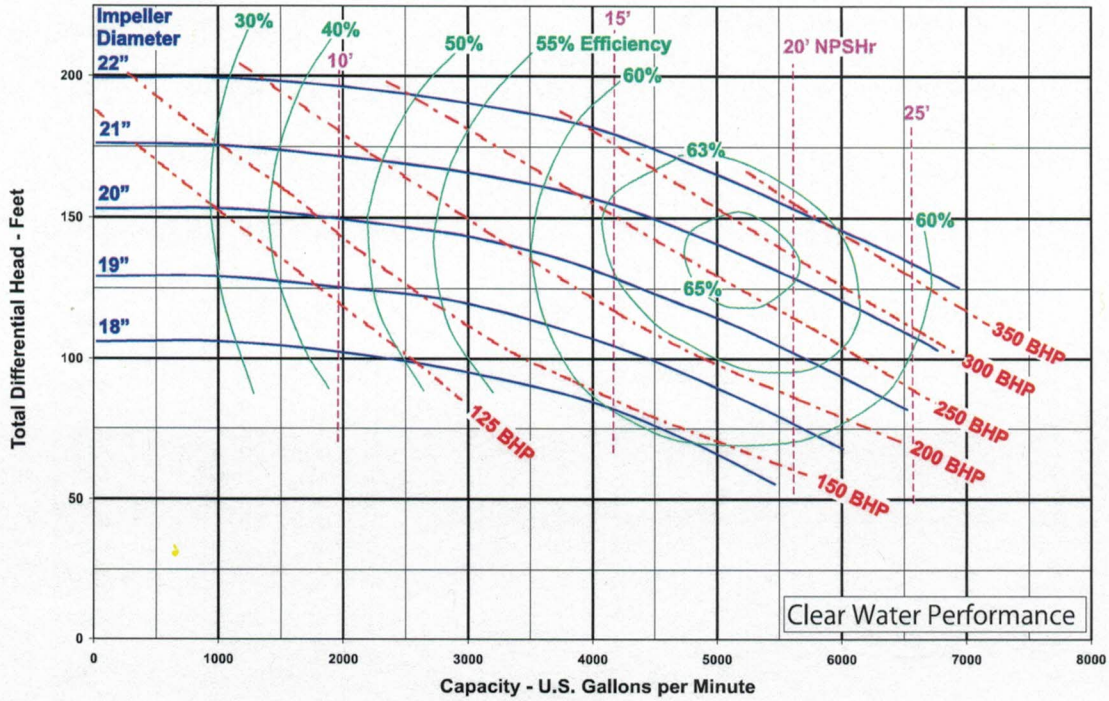
Magnum XP
12X10X23
Speed: 1400 RPM
Curve: XP010-E1-CAT

Open Impeller
Dia: 20" to 23"



Magnum XP
 14X12X22
 Speed: 1200 RPM
 Curve: 1081

Open Impeller
 Dia: 18" to 22"
 Max Sphere: 1 5/8"



Magnum XP
 14X12X22
 Speed: 1000 -1400 RPM
 Curve: M1412VA

Open Impeller
 Dia: 22"
 Max Sphere: 1 5/8"

