

60 HERTZ PERFORMANCE CURVES

SERIES 1531

Close Coupled Centrifugal Pump Performance Curves

Bell & Gossett

Part of the ES PLUS Equipment Selection Program

ITT Industries Engineered for life

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USEFUL PUMP FORMULAS

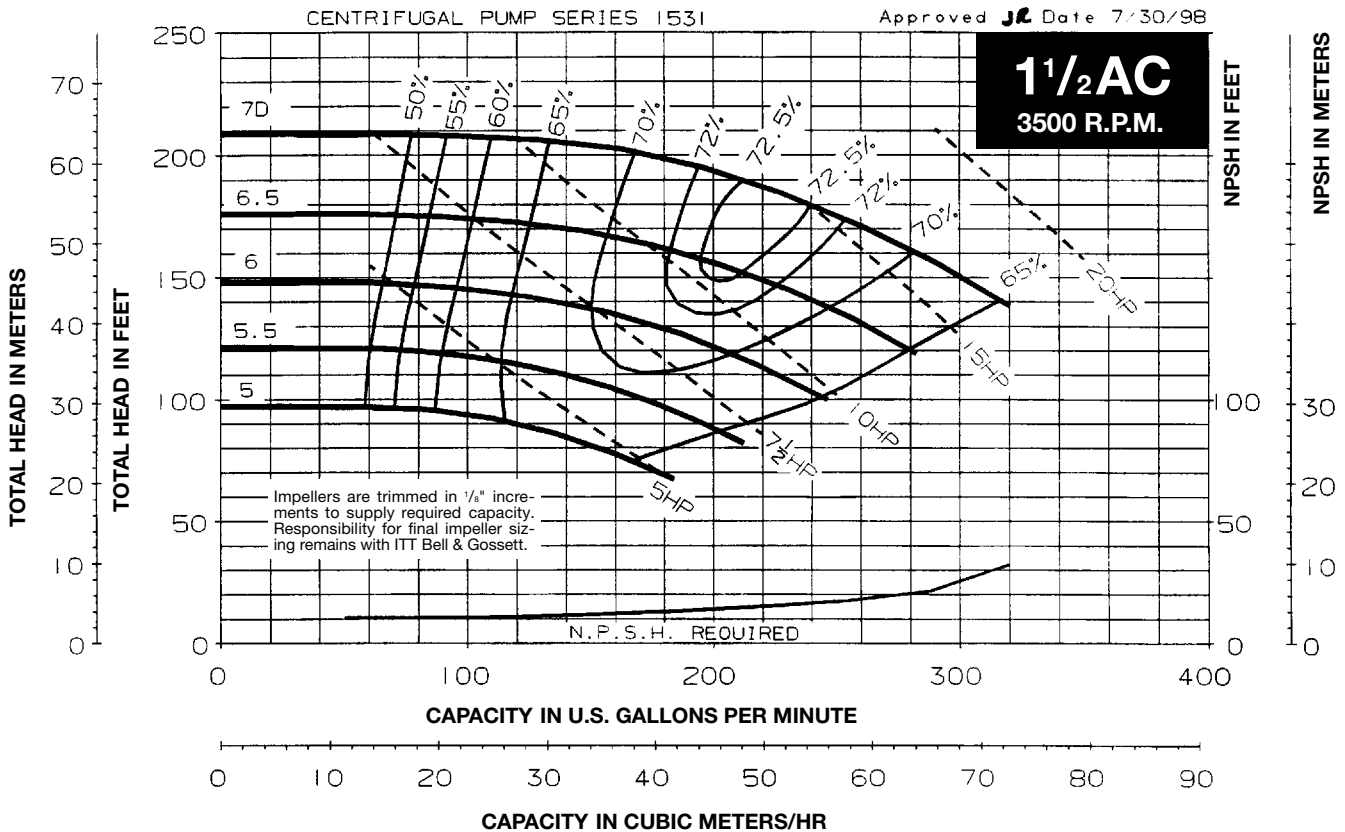
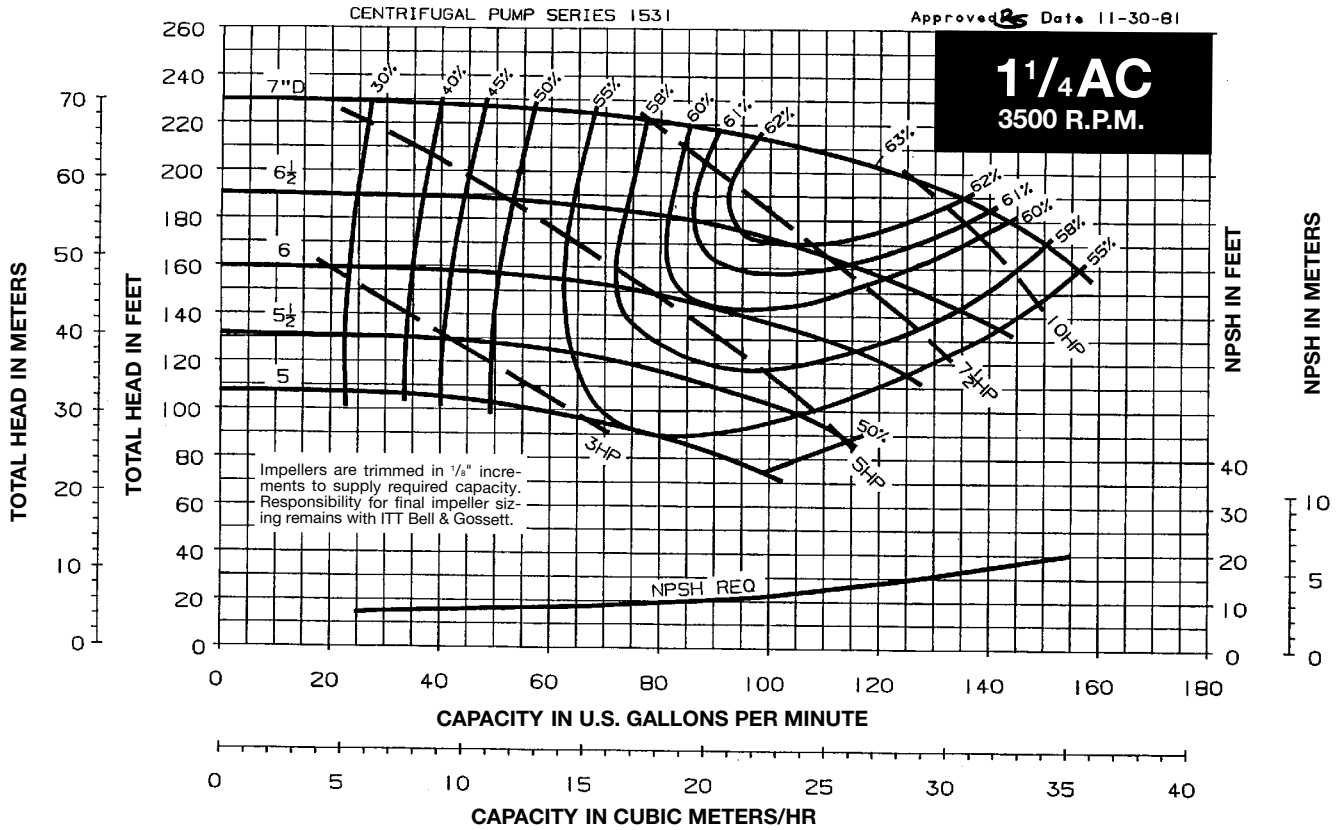
$$\begin{aligned} \text{Pressure (PSI)} &= \frac{\text{Head (Feet)} \times \text{Specific Gravity}}{2.31} \\ \text{Head (Feet)} &= \frac{\text{Pressure (PSI)} \times 2.31}{\text{Specific Gravity}} \\ \text{Vacuum (Inches of Mercury)} &= \frac{\text{Dynamic Suction Lift (Feet)} \times .883}{\text{Specific Gravity}} \\ \text{Horsepower (Brake)} &= \frac{\text{GPM} \times \text{Head (Feet)} \times \text{Specific Gravity}}{3960 \times \text{Pump Efficiency}} \\ \text{Horsepower (Water)} &= \frac{\text{GPM} \times \text{Head (Feet)} \times \text{Specific Gravity}}{3960} \\ \text{Efficiency (Pump)} &= \frac{\text{Horsepower (Water)}}{\text{Horsepower (Brake)}} \times 100 \text{ Per Cent} \\ \text{NPSH (Available)} &= \text{Positive Factors} - \text{Negative Factors} \end{aligned}$$

Affinity Laws: Effect of change of speed or impeller diameter on centrifugal pumps.

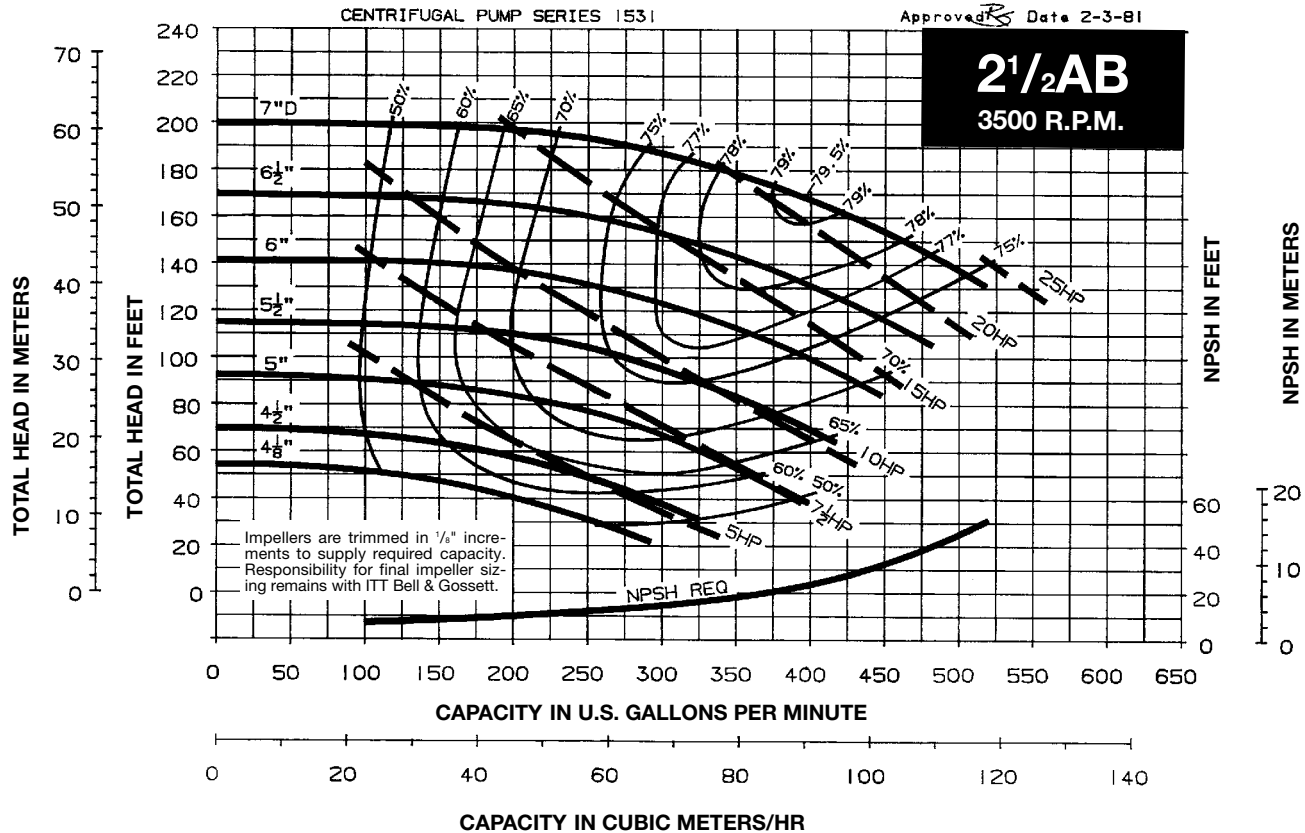
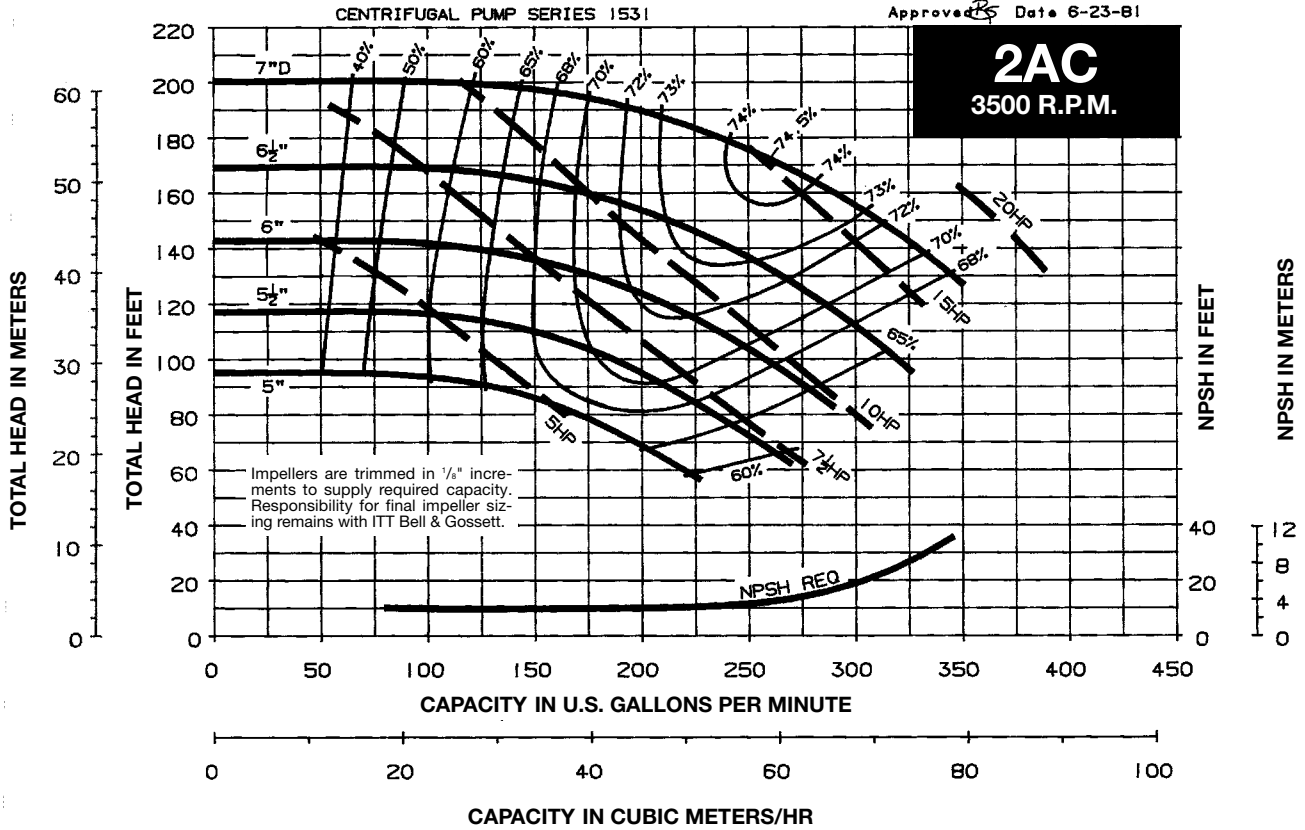
	GPM Capacity	Ft. Head	BHP
Impeller Diameter Change	$Q_2 = \frac{D_2}{D_1} Q_1$	$H_2 = \left(\frac{D_2}{D_1}\right)^2 H_1$	$P_2 = \left(\frac{D_2}{D_1}\right)^3 P_1$
Speed Change	$Q_2 = \frac{\text{RPM}_2}{\text{RPM}_1} Q_1$	$H_2 = \left(\frac{\text{RPM}_2}{\text{RPM}_1}\right)^2 H_1$	$P_2 = \left(\frac{\text{RPM}_2}{\text{RPM}_1}\right)^3 P_1$

Where Q = GPM, H = Head, P = BHP, D = Impeller Dia., RPM = Pump Speed

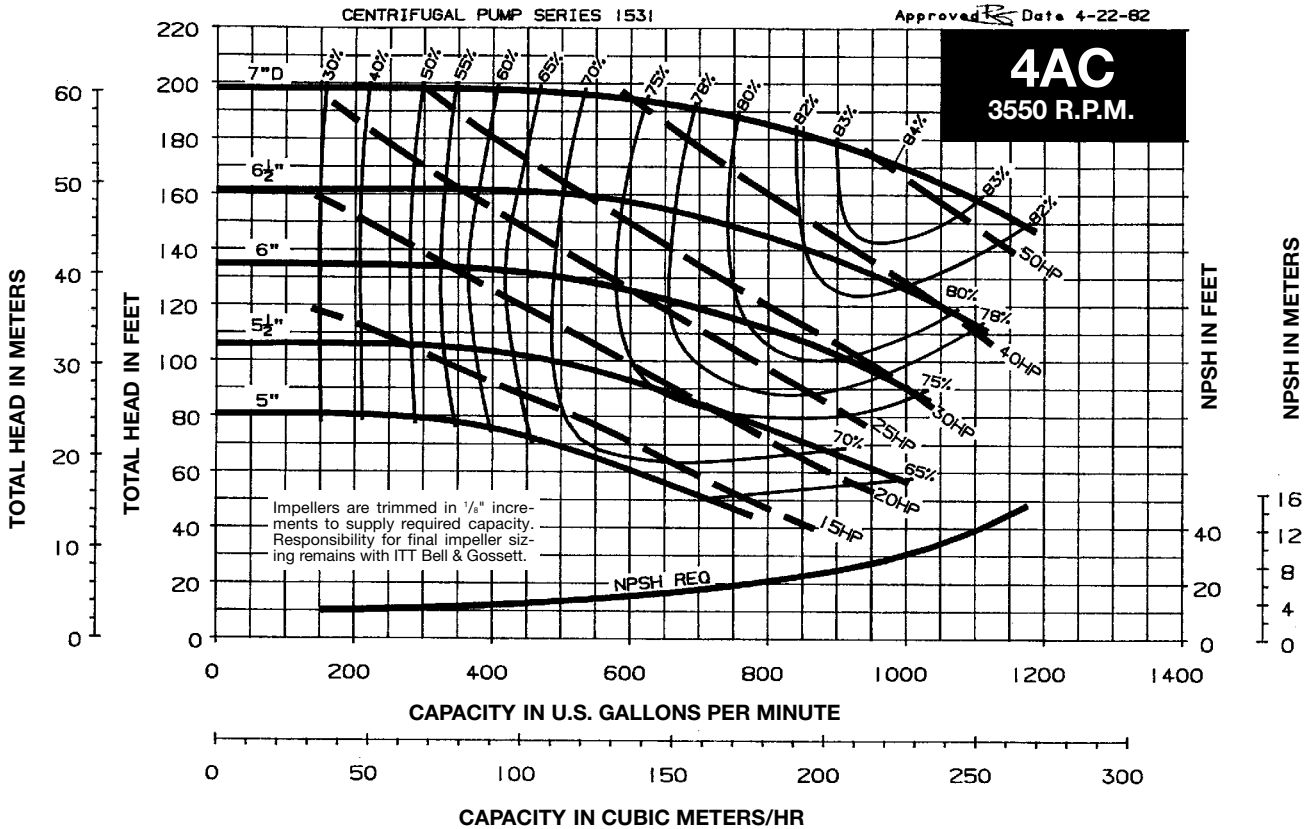
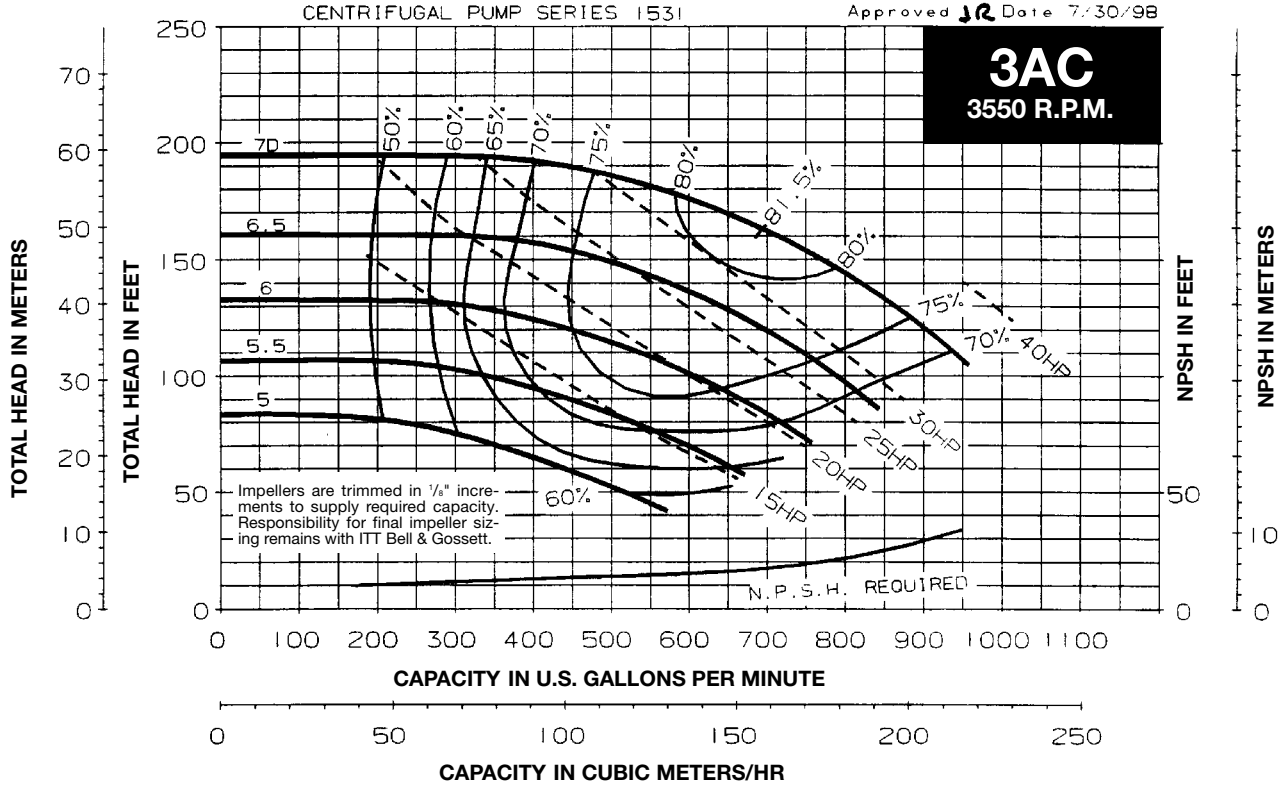
3500 RPM PUMP CURVES



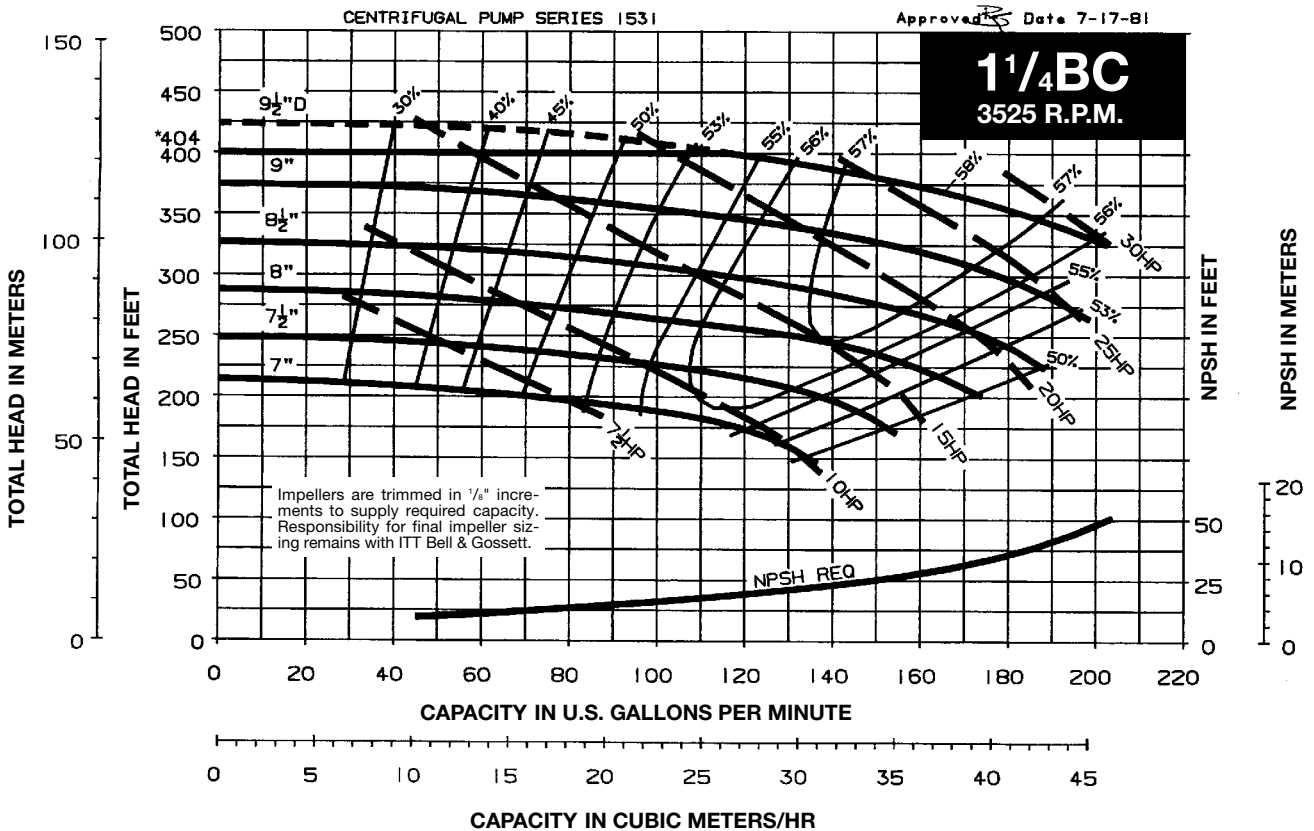
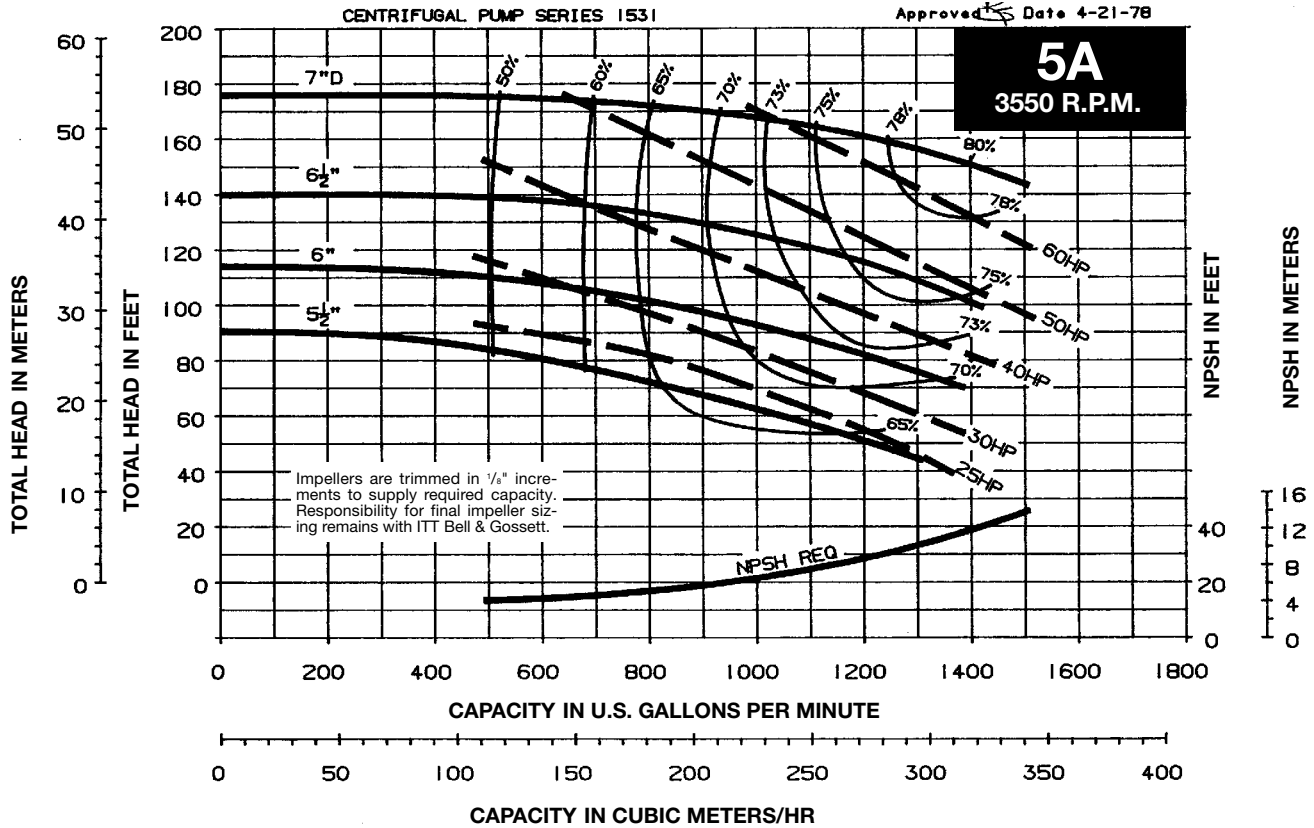
3500 RPM PUMP CURVES



3500 RPM PUMP CURVES

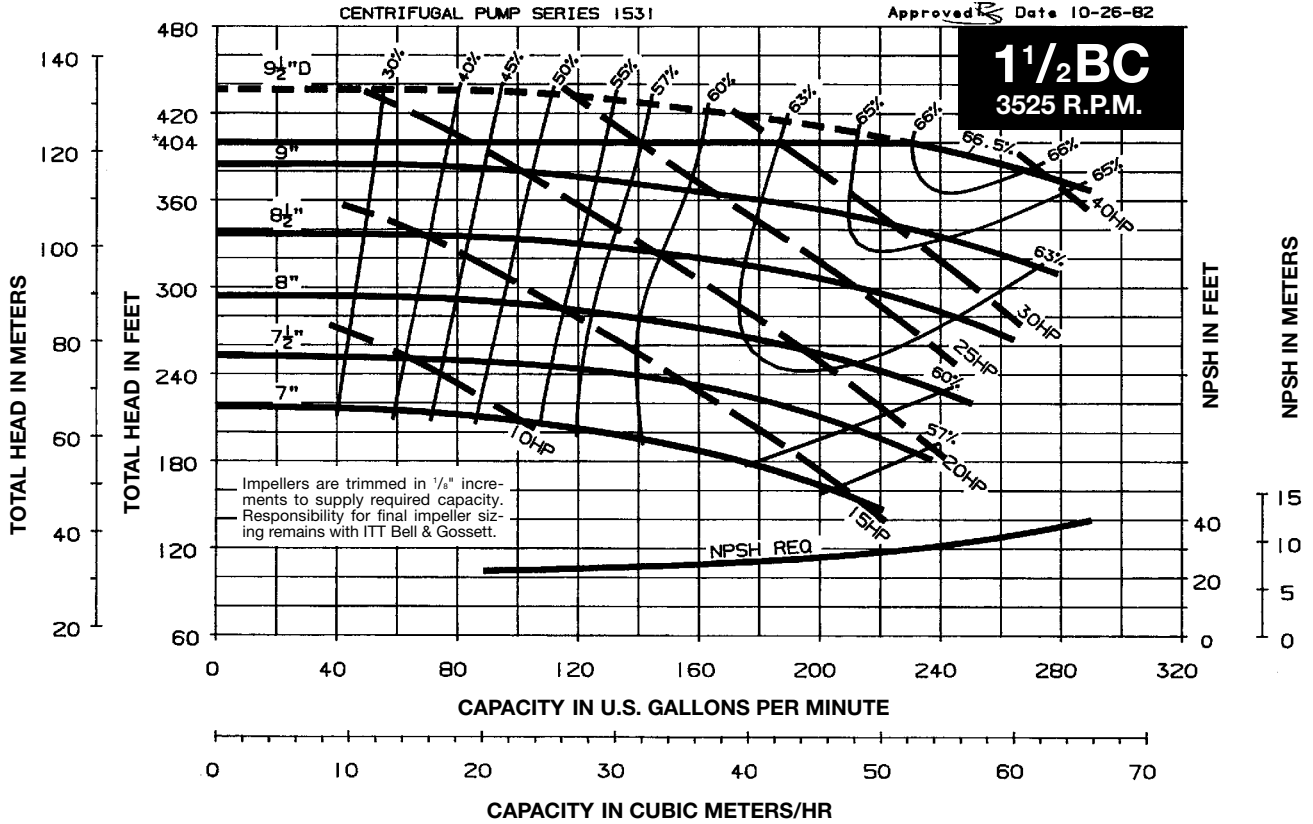


3500 RPM PUMP CURVES

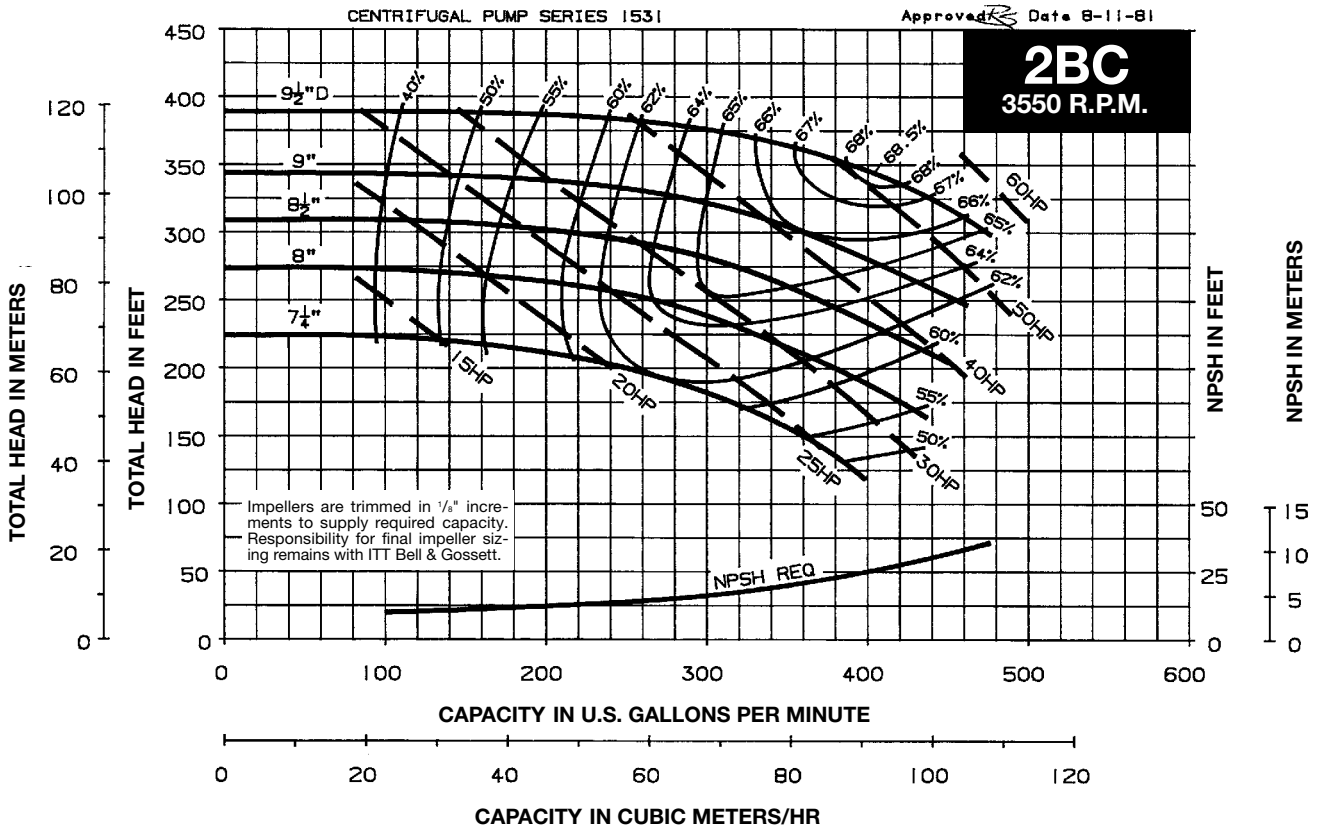


*Operation above 404' will exceed the maximum pressure rating of the pump.

3500 RPM PUMP CURVES



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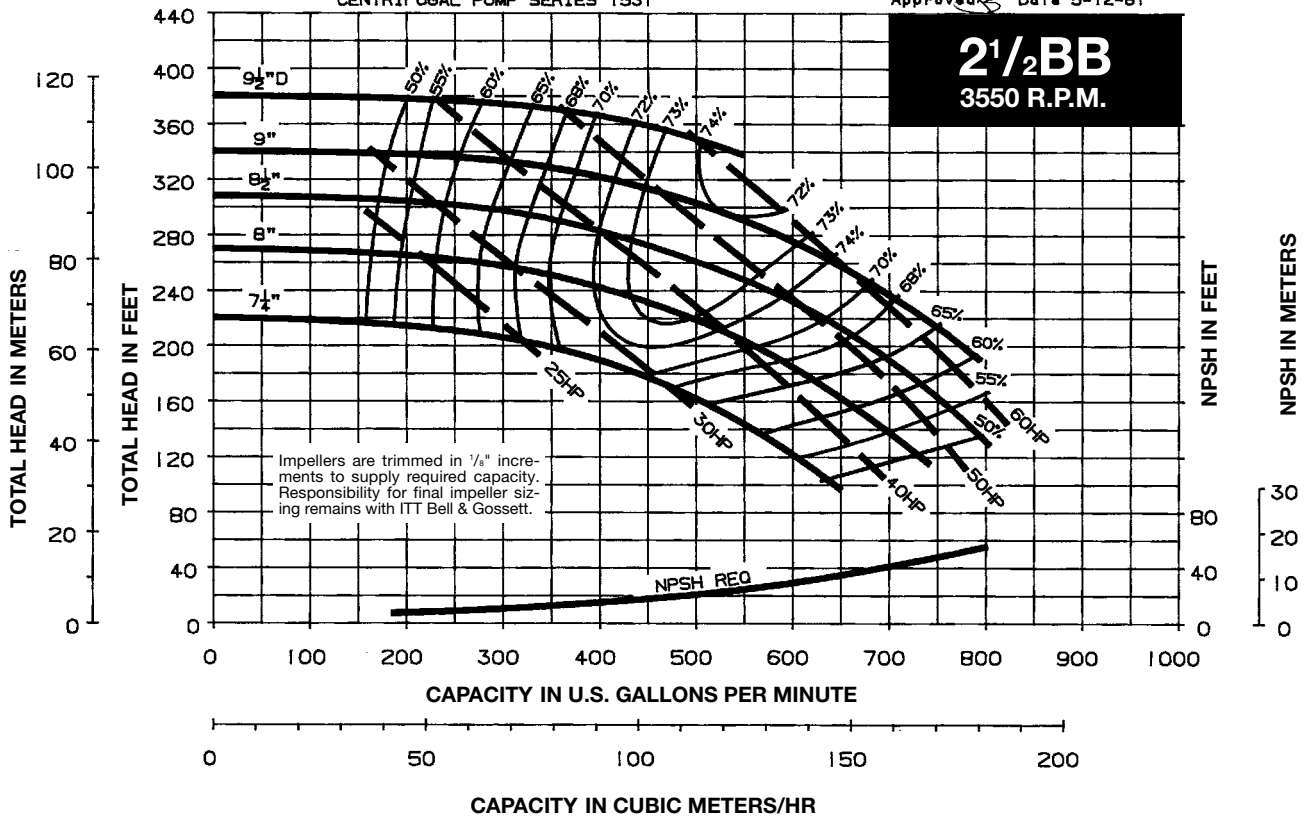


3500 RPM PUMP CURVES

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Approved  Date 5-12-81

2 1/2 BB
3550 R.P.M.

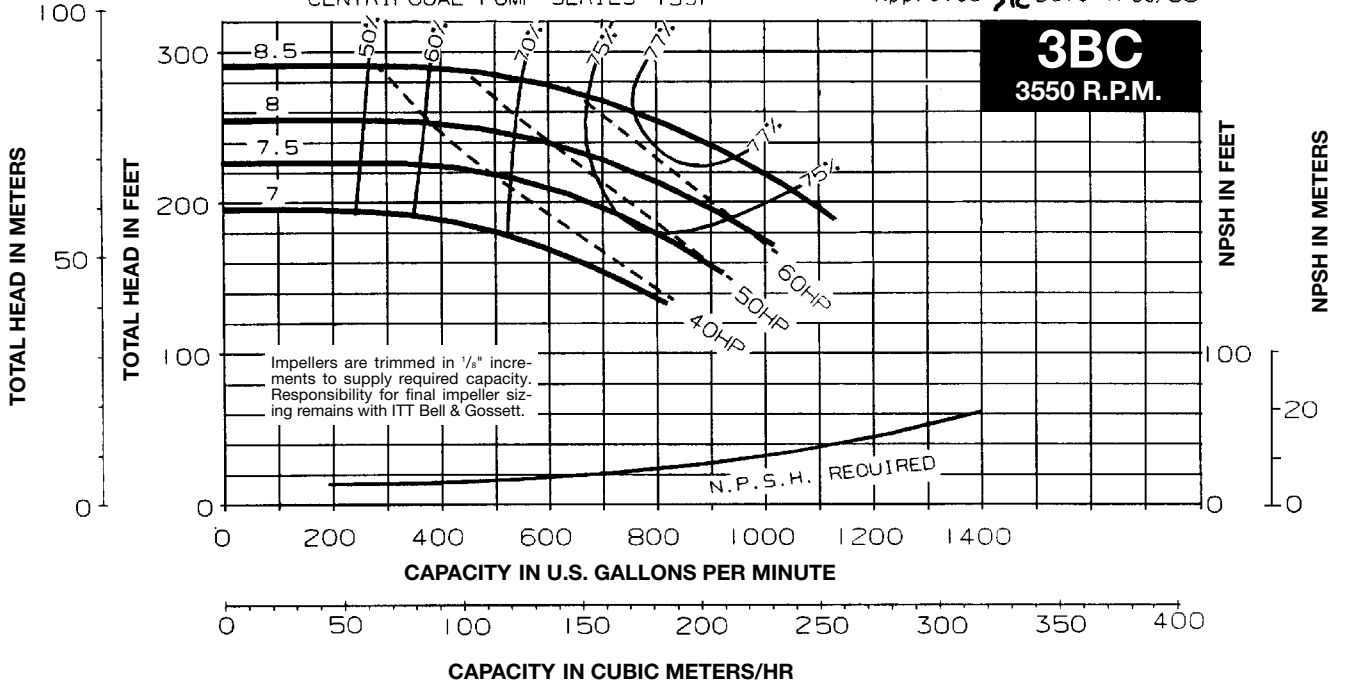


3500 RPM PUMP CURVES

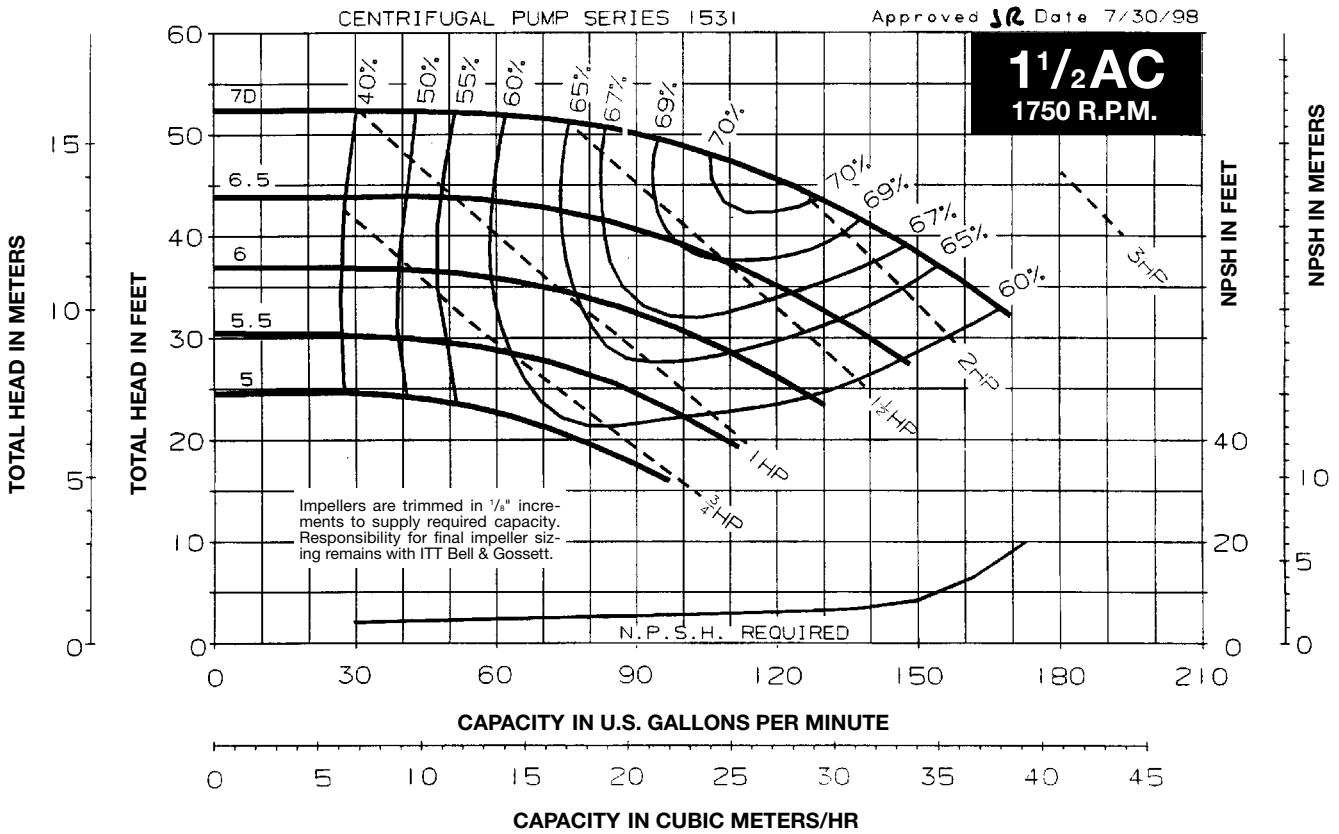
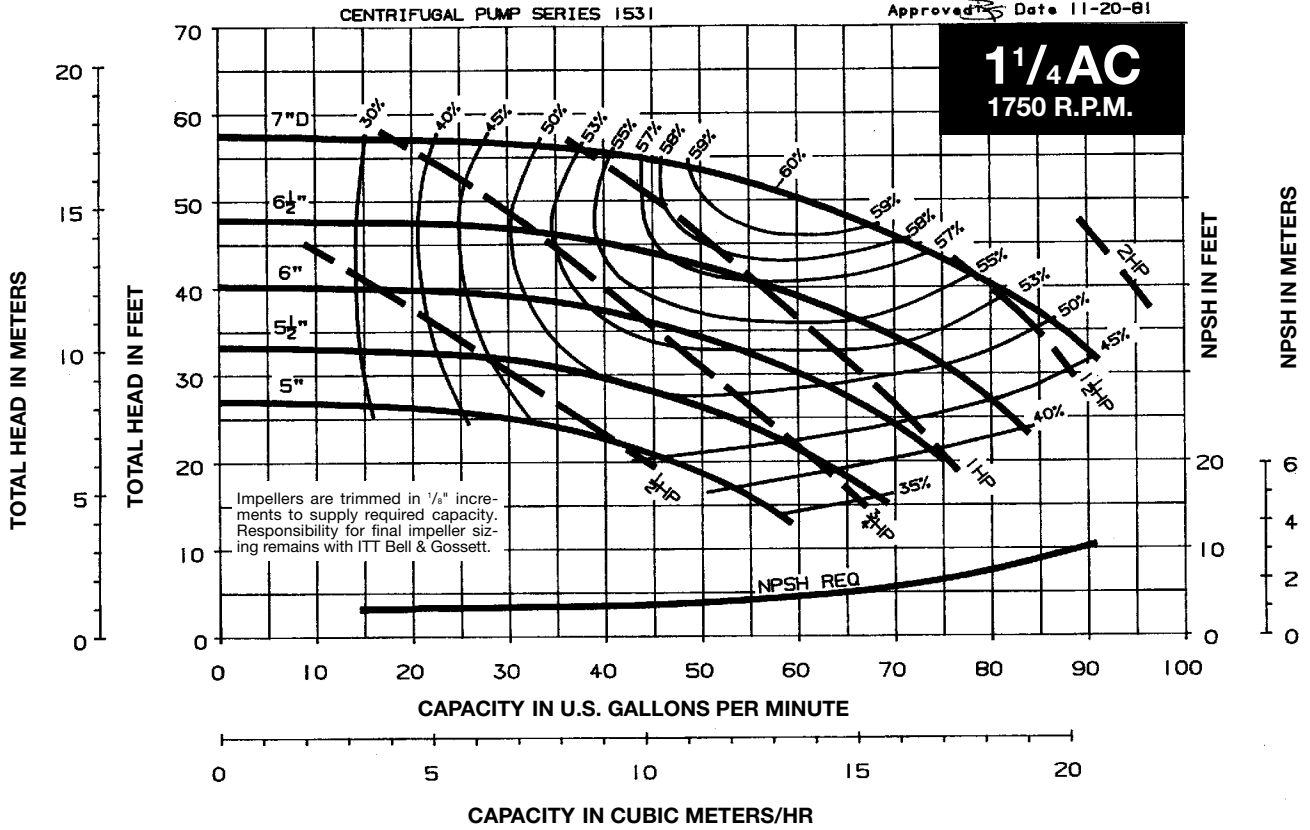
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Approved  Date 7/30/98

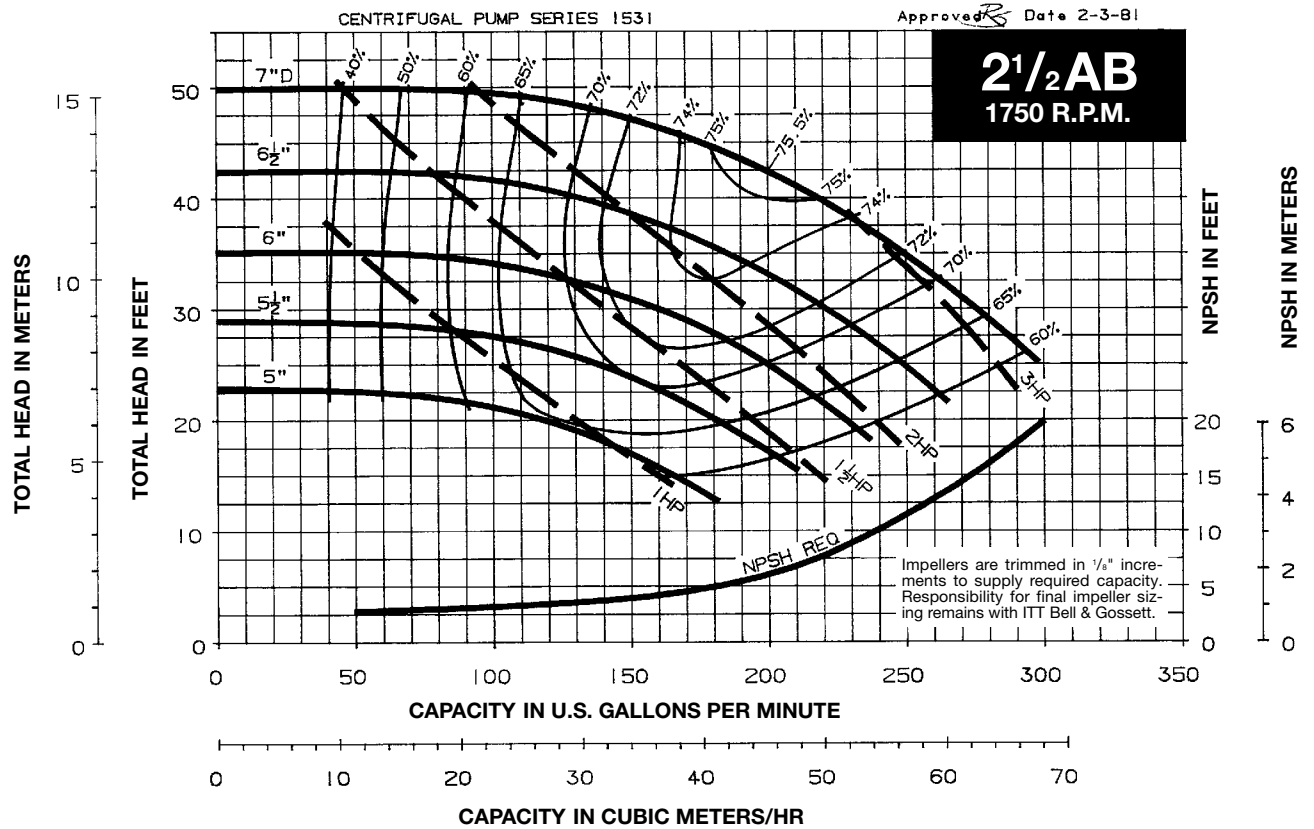
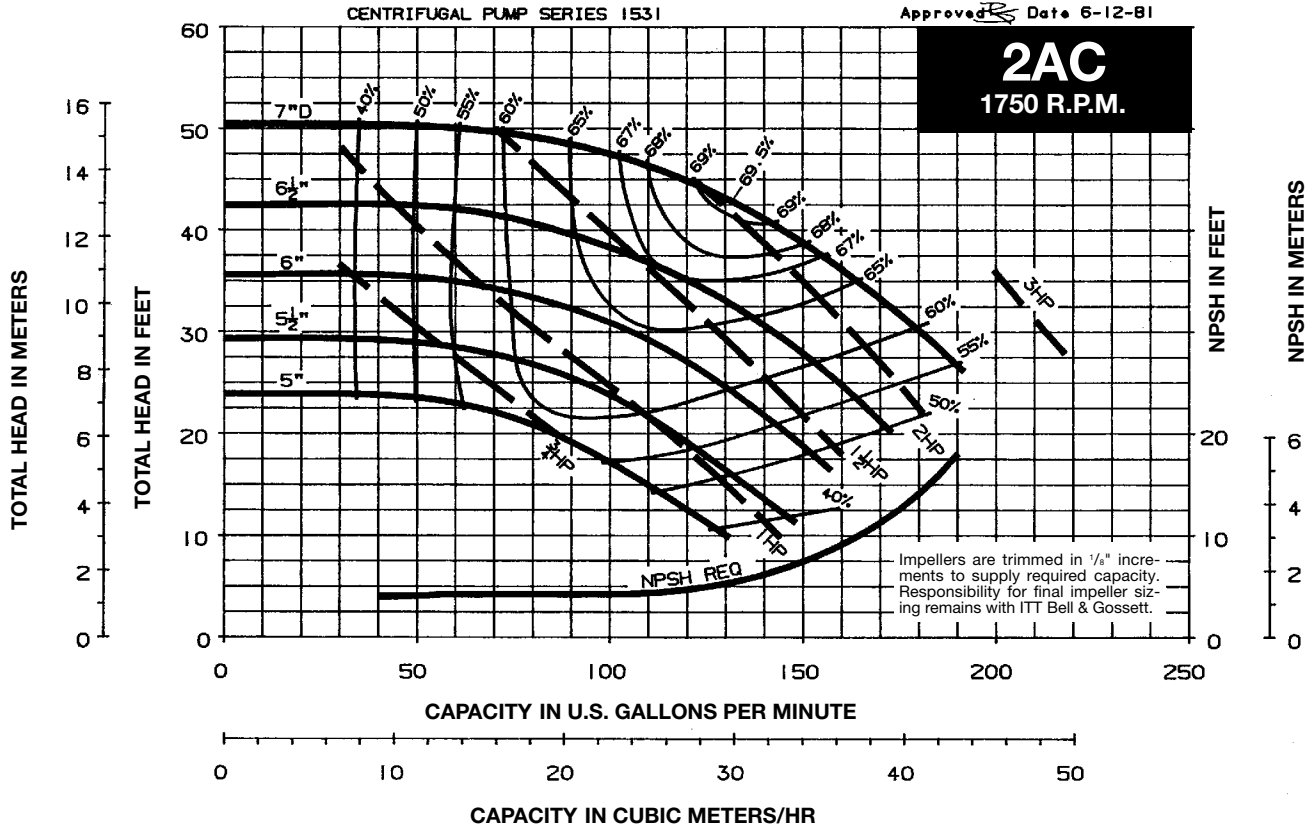
3BC
3550 R.P.M.



1750 RPM PUMP CURVES



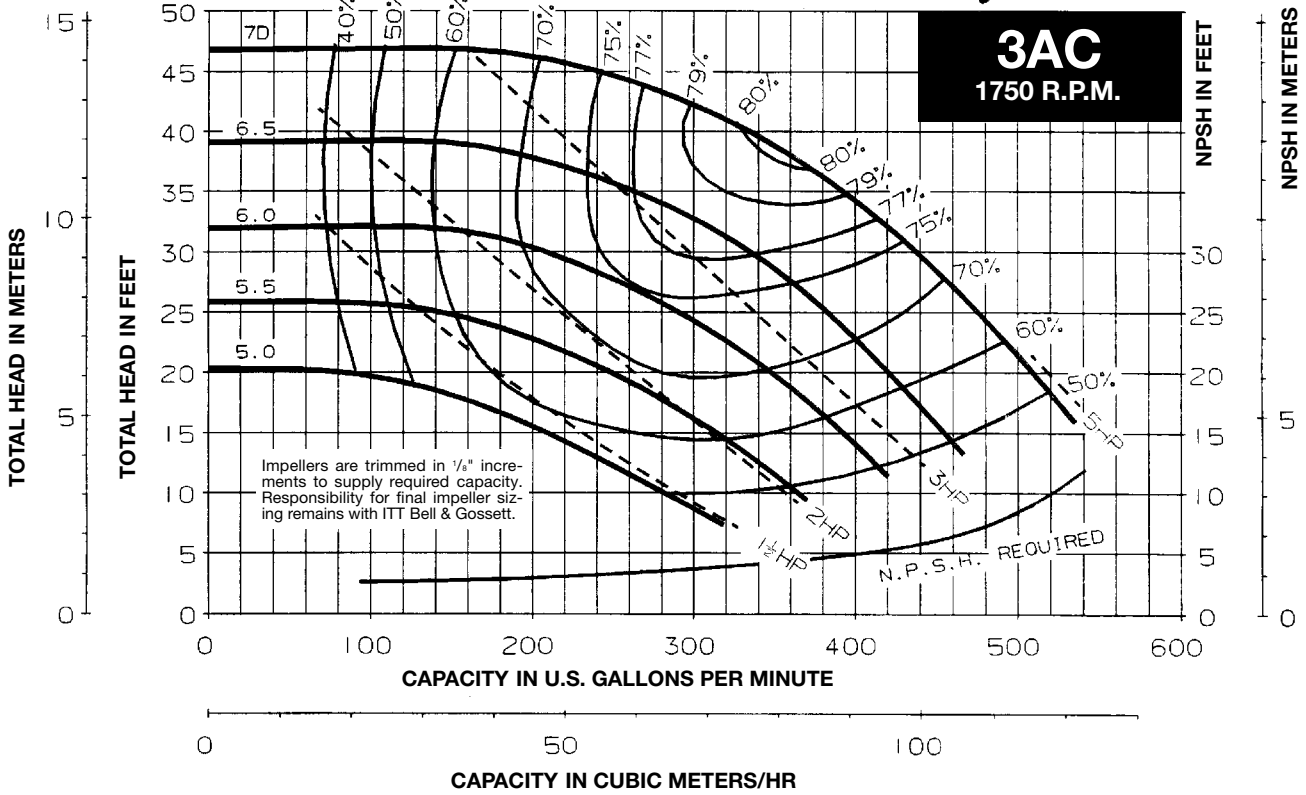
1750 RPM PUMP CURVES



1750 RPM PUMP CURVES

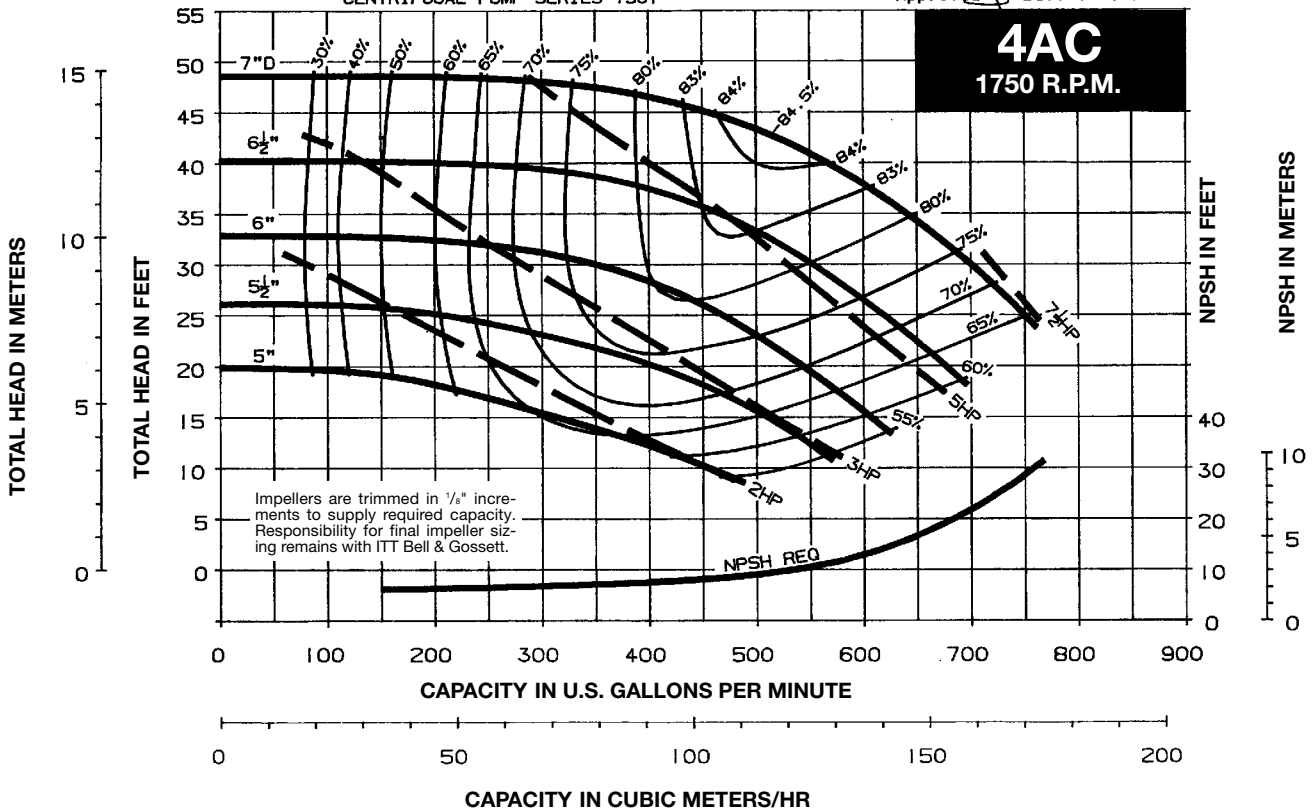
CENTRIFUGAL PUMP SERIES 1531

Approved *JR* Date 7/30/98

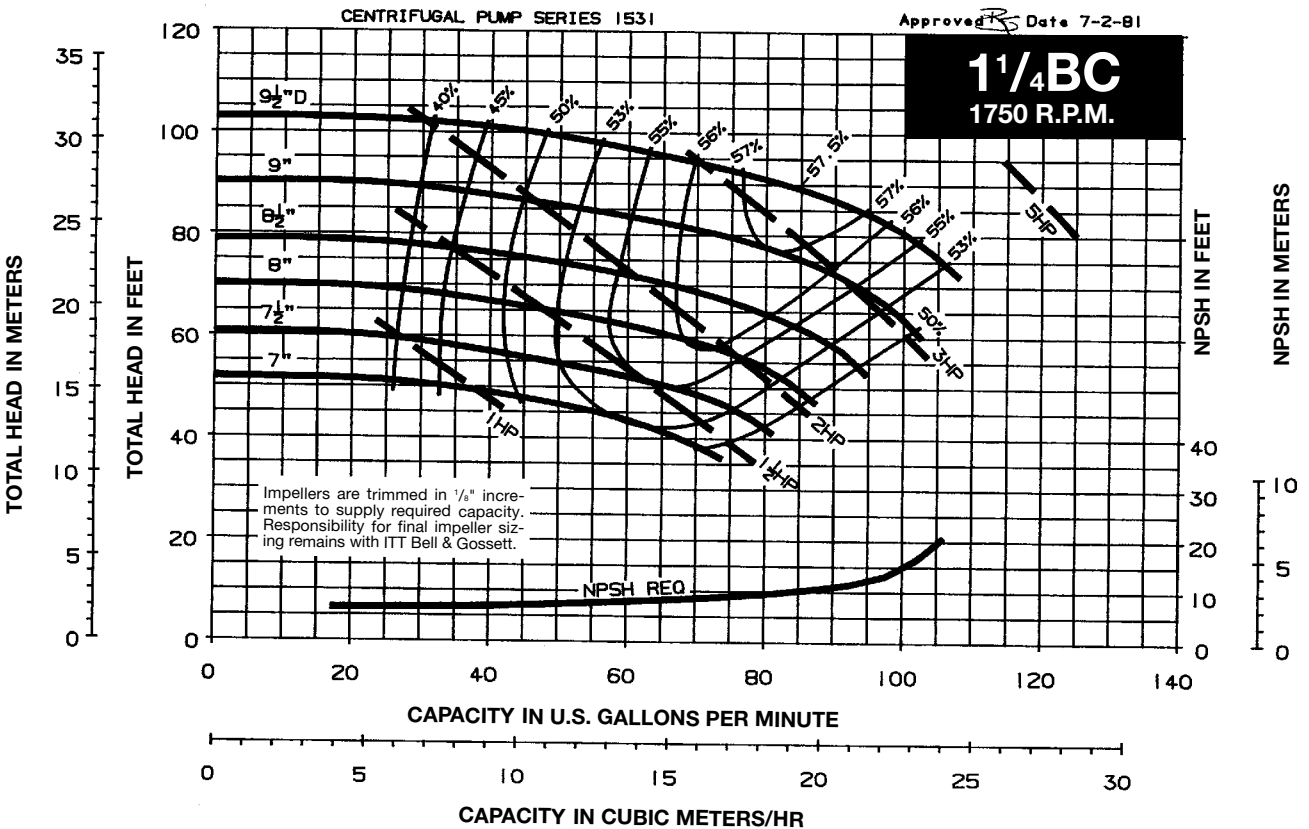
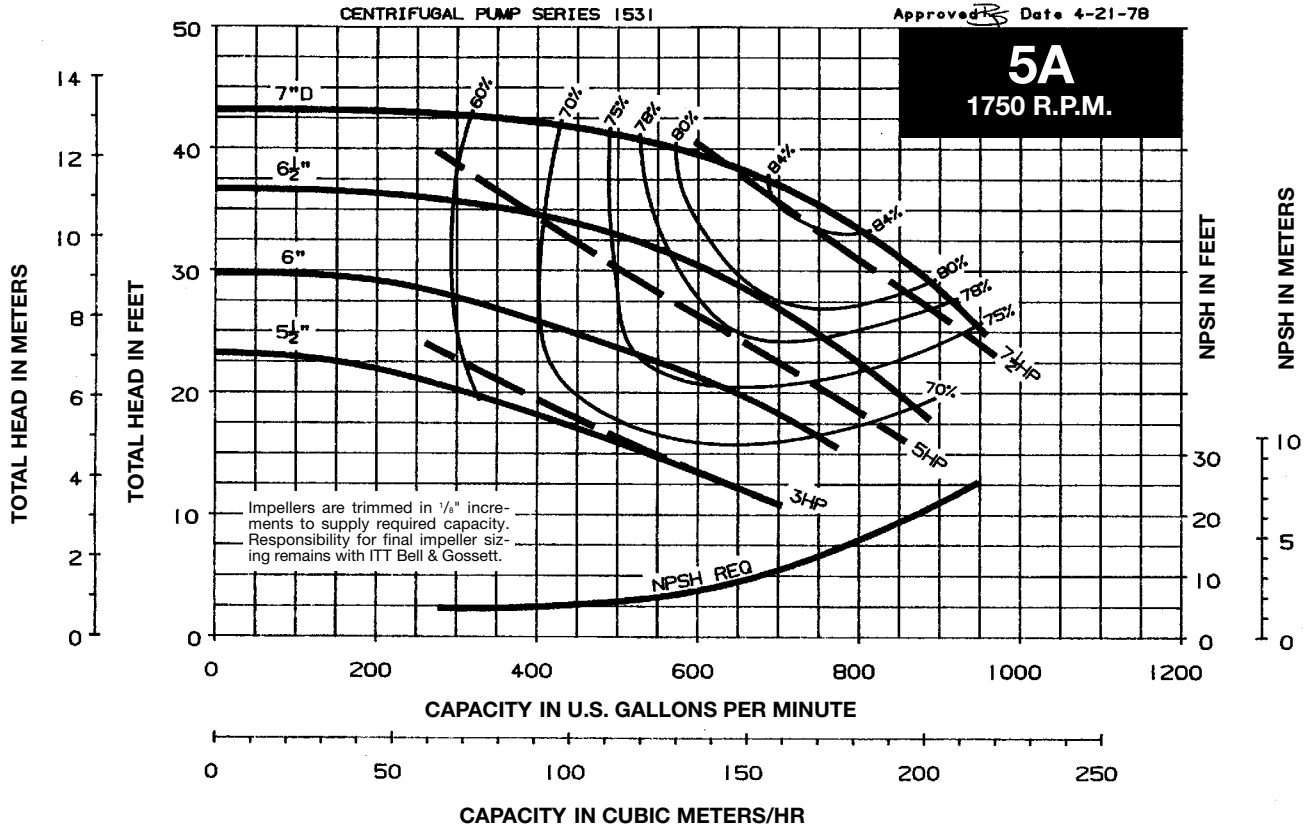


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Approved *RS* Date 4-19-82



1750 RPM PUMP CURVES

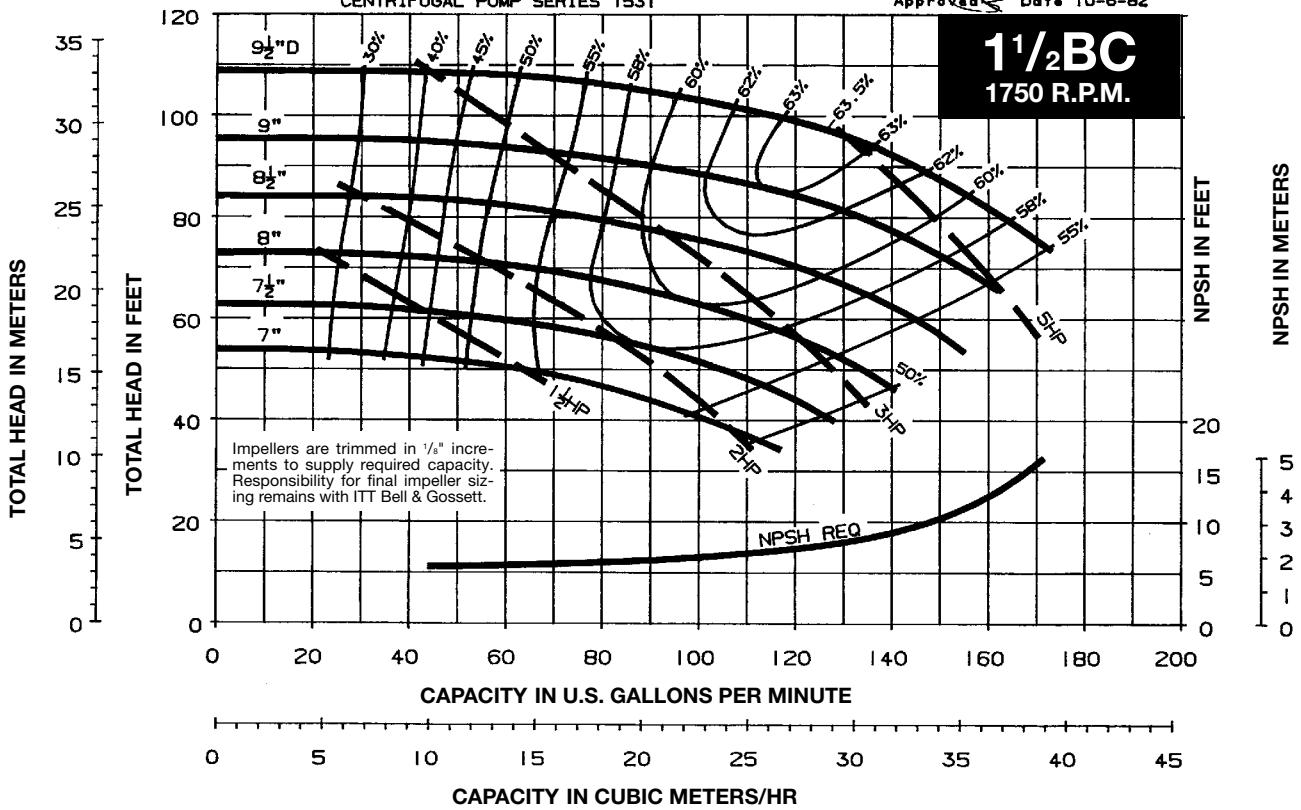


1750 RPM PUMP CURVES

CENTRIFUGAL PUMP SERIES 1531

Approved  Date 10-6-82

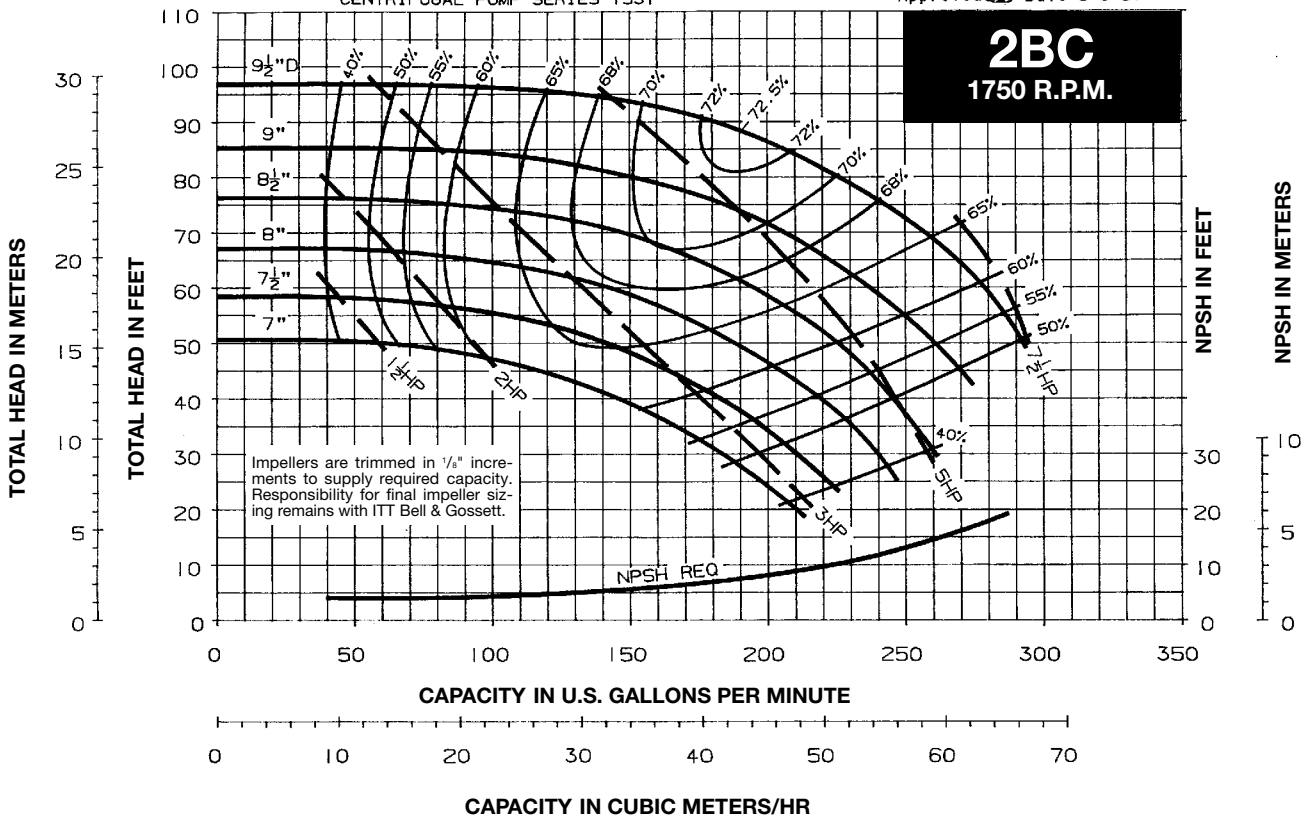
1 1/2 BC
1750 R.P.M.



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Approved  Date 8-3-81

2 BC
1750 R.P.M.

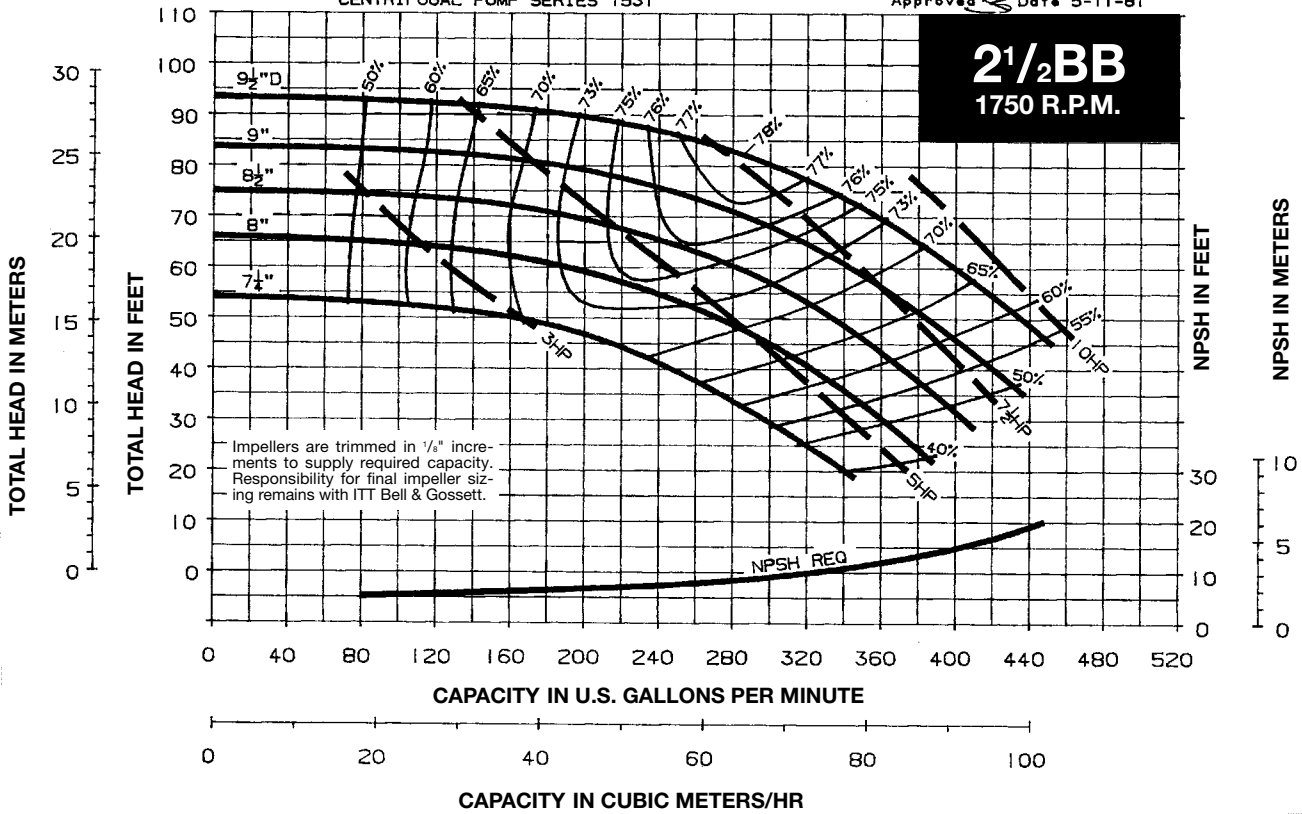


1750 RPM PUMP CURVES

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Approved  Date 5-11-81

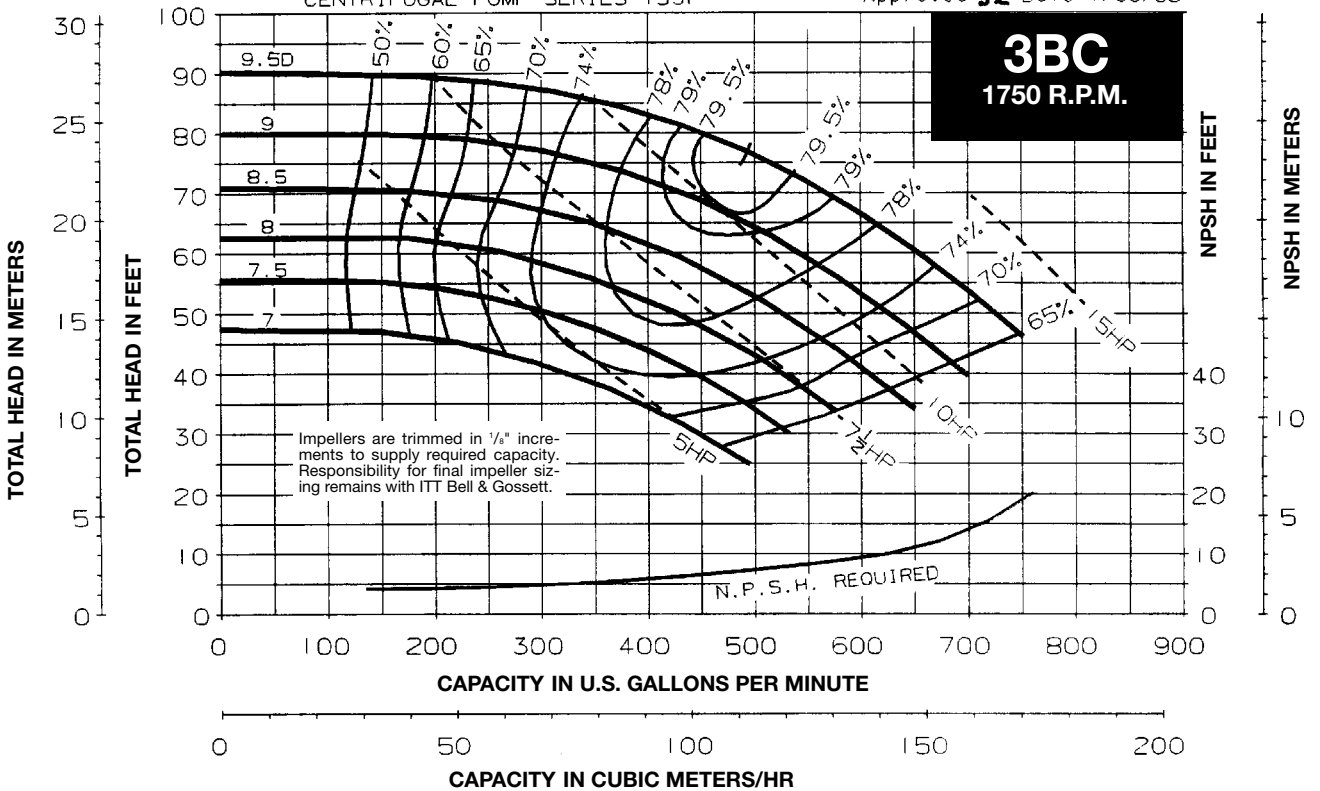
2 1/2 BB
1750 R.P.M.



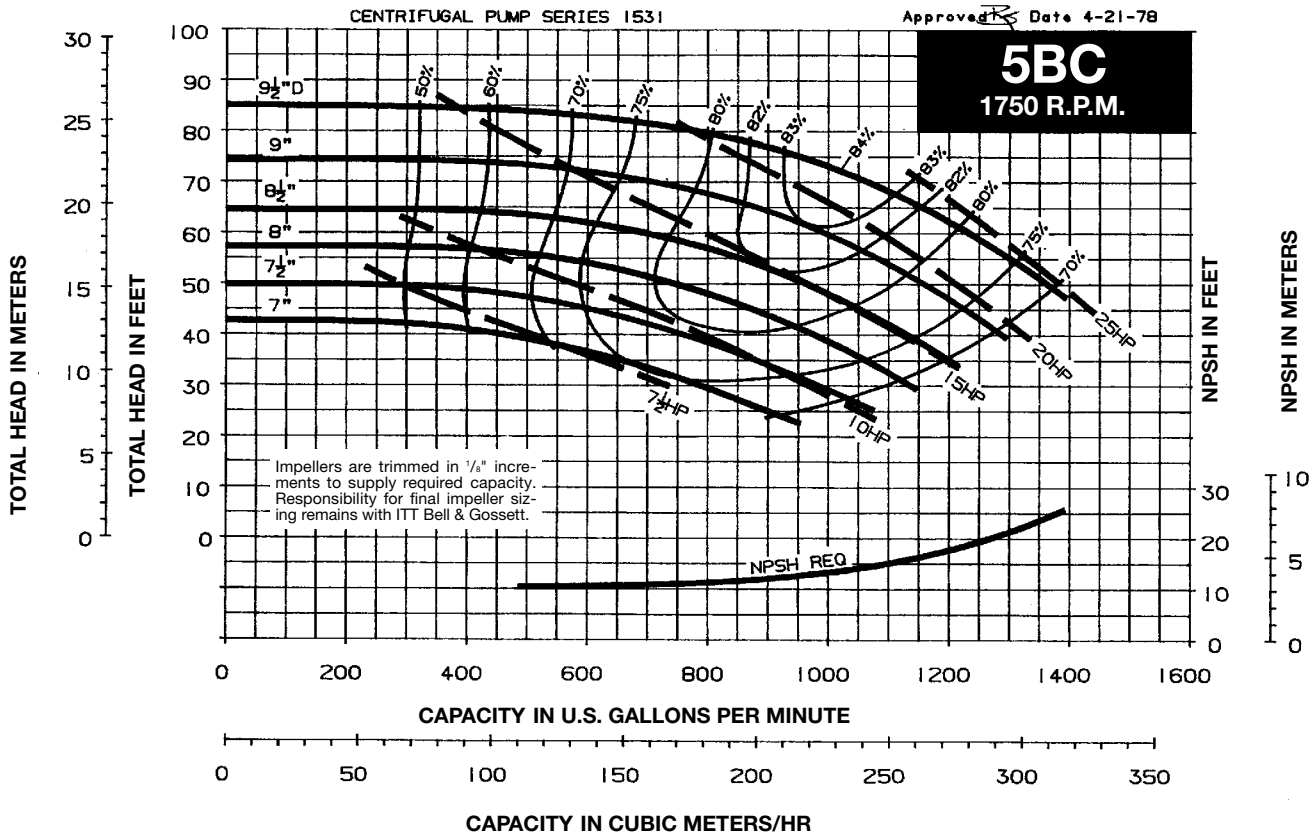
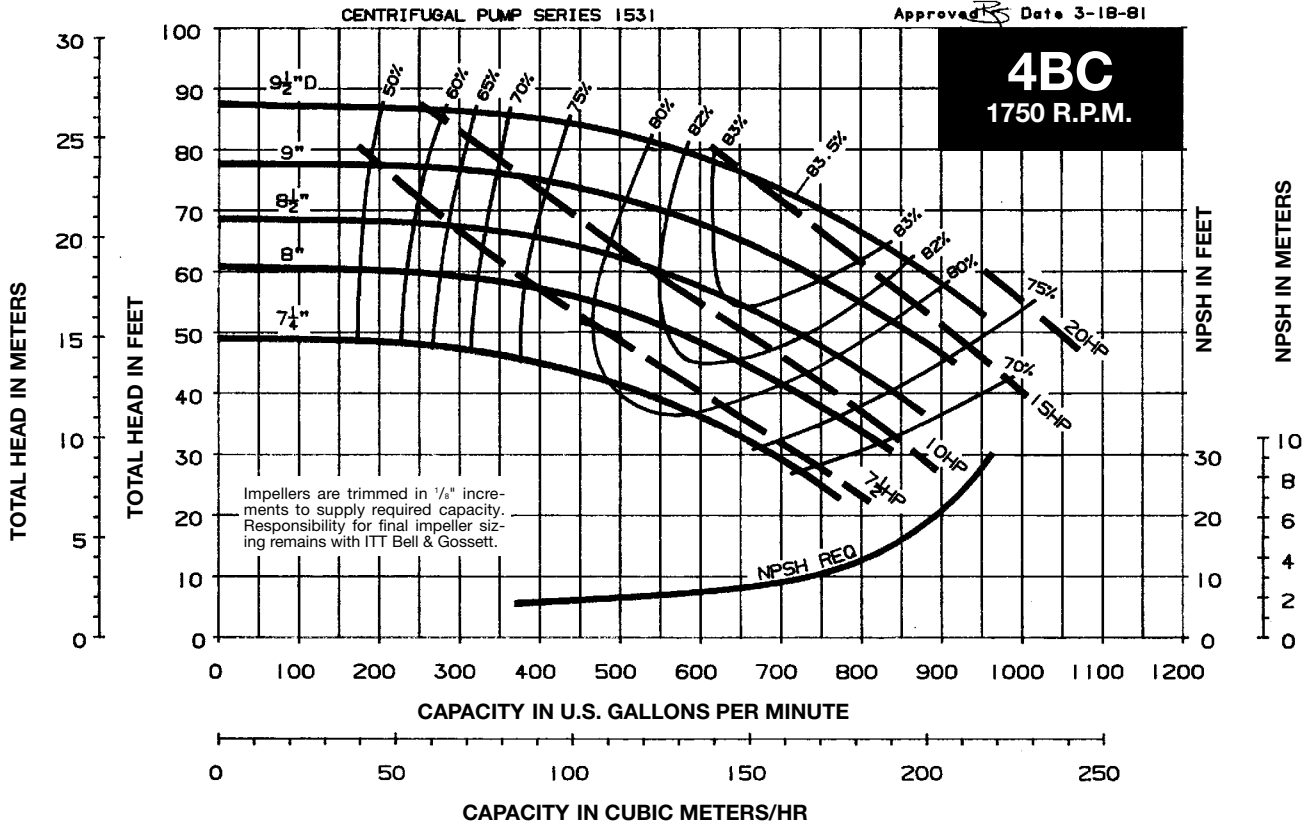
CENTRIFUGAL PUMP SERIES 1531

Approved  Date 7/30/98

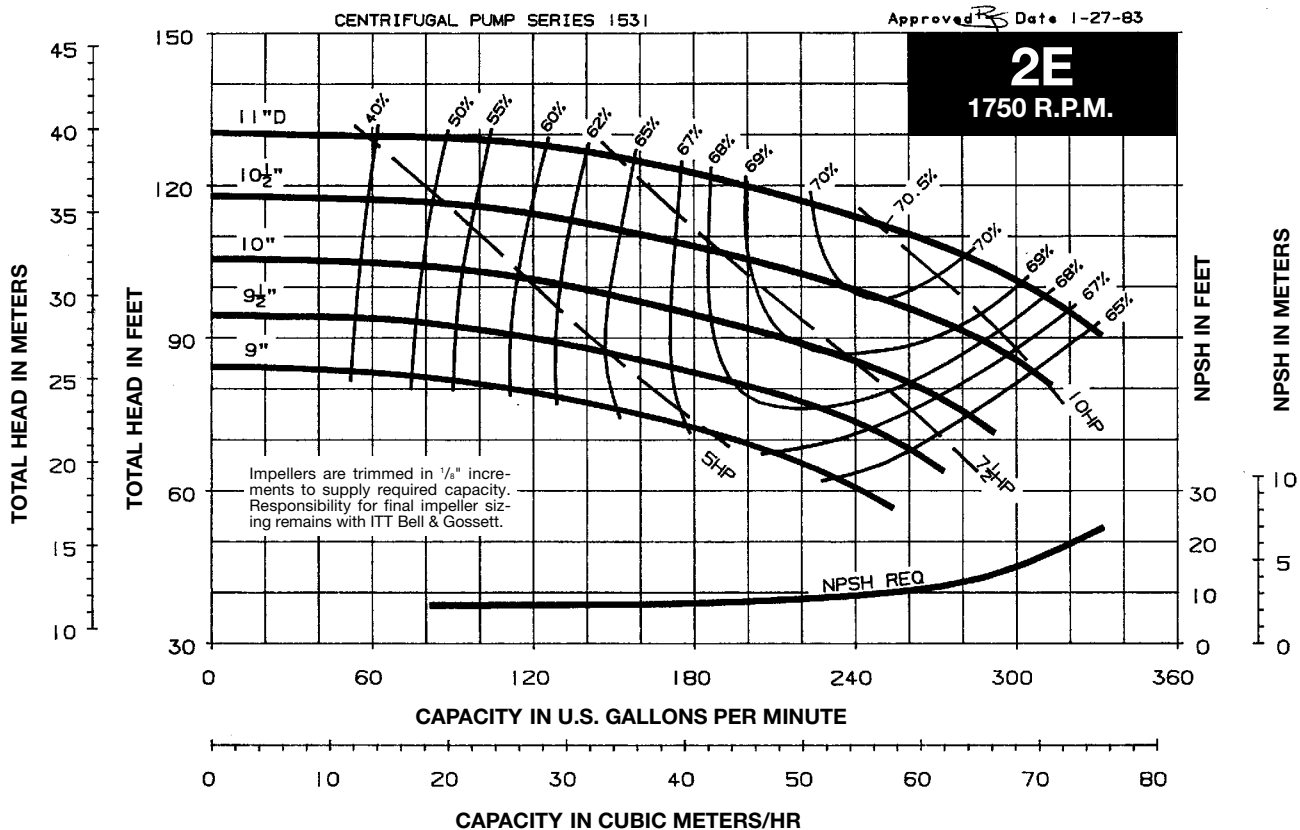
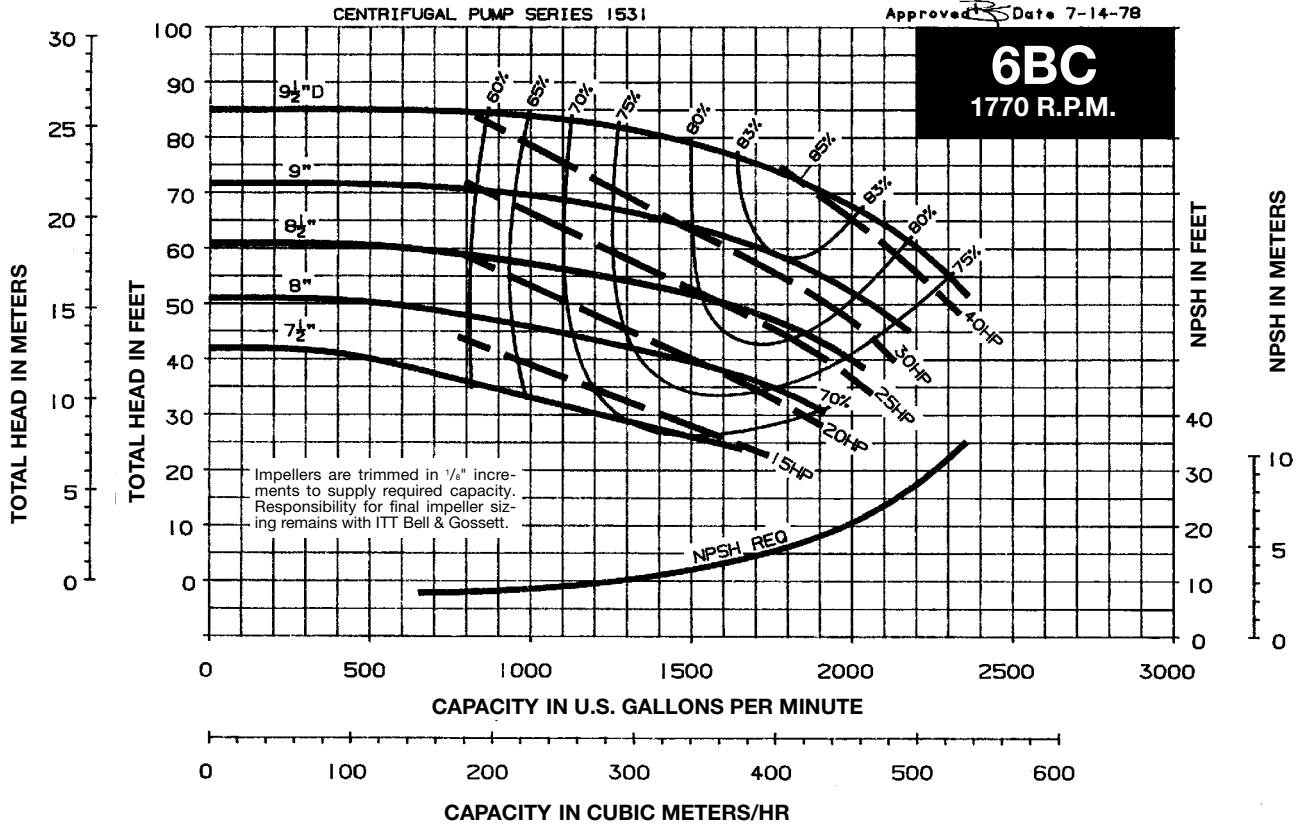
3BC
1750 R.P.M.



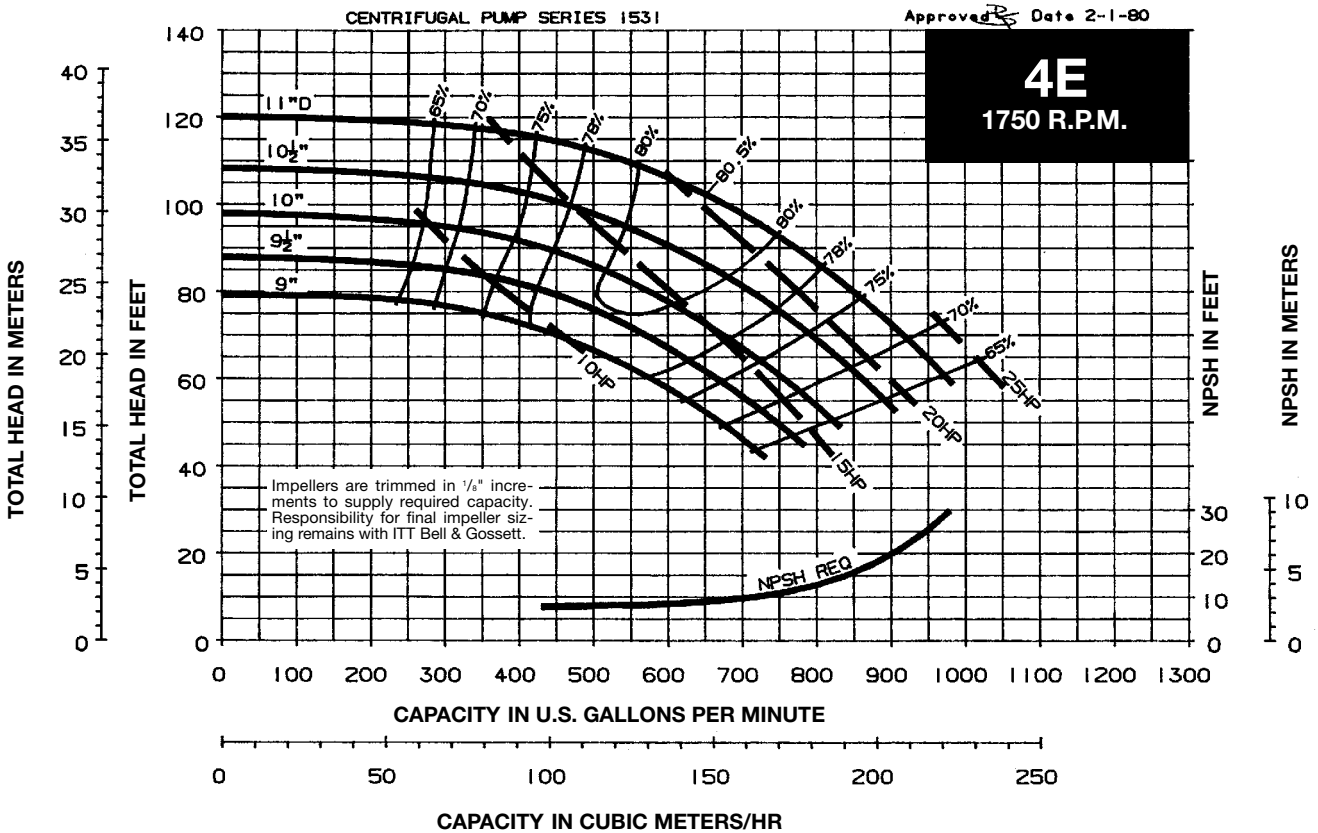
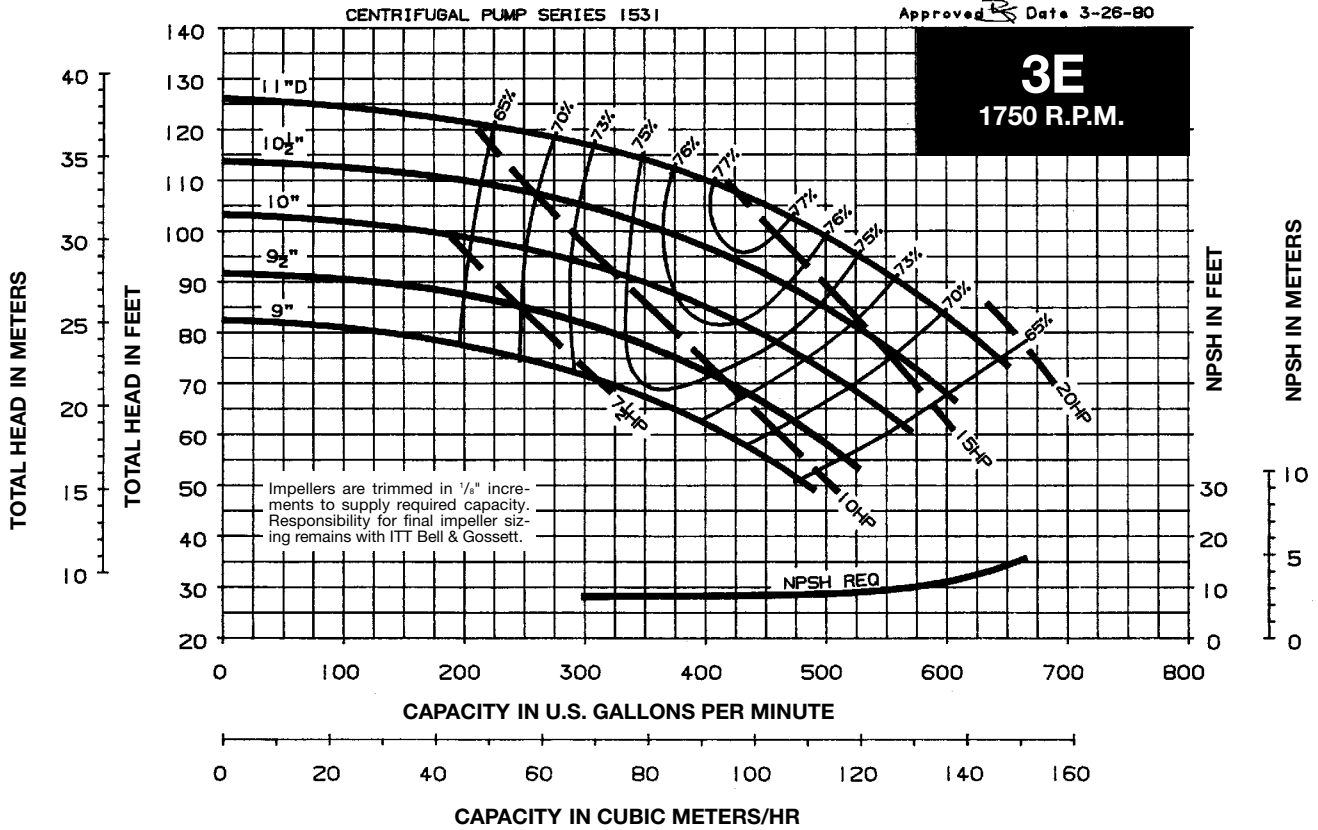
1750 RPM PUMP CURVES



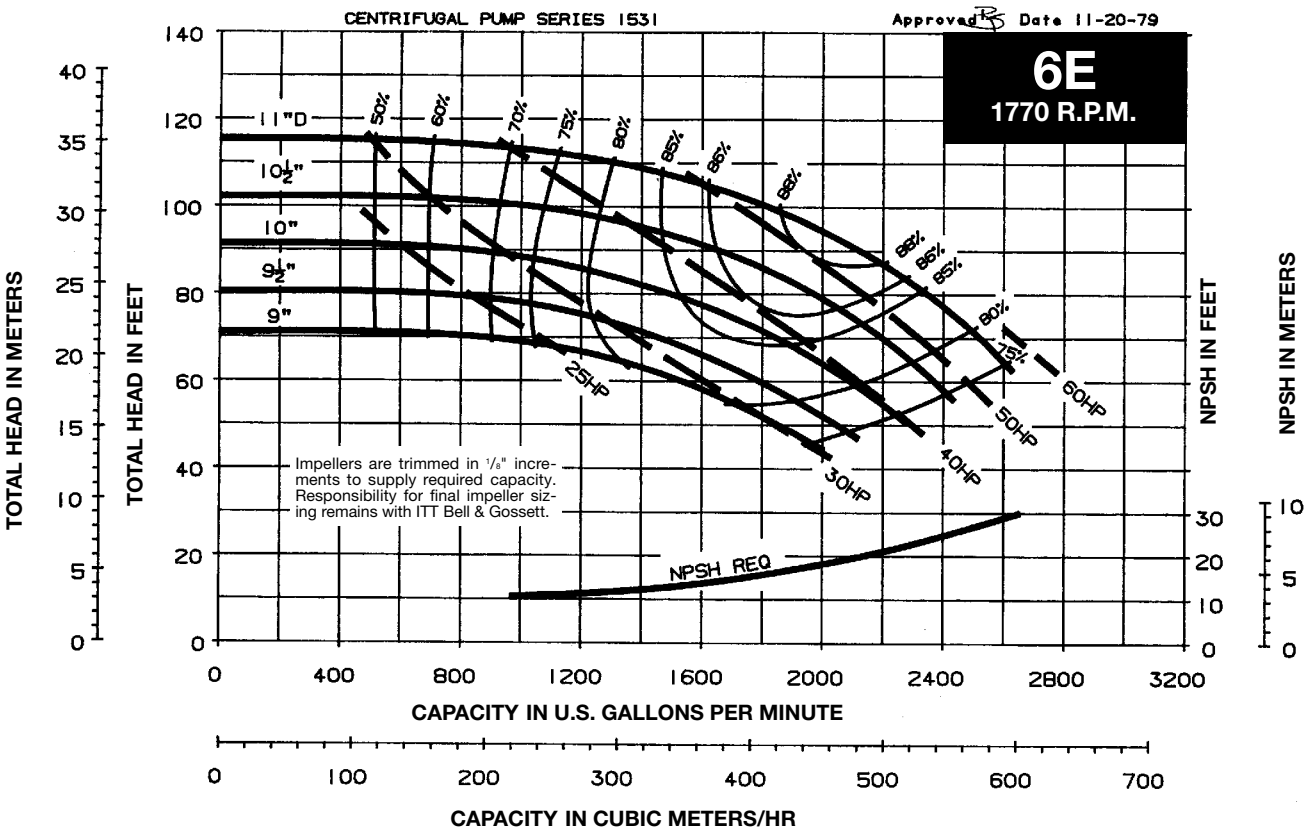
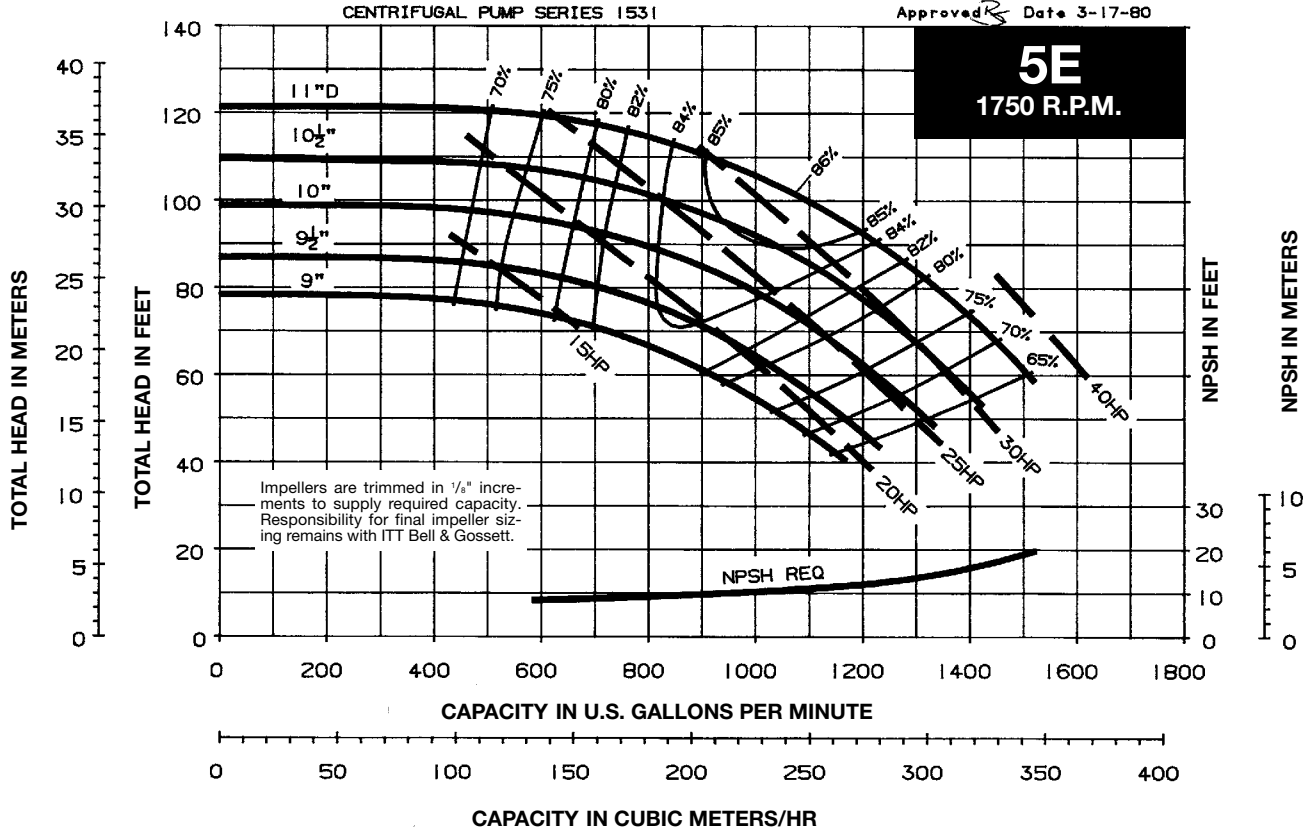
1750 RPM PUMP CURVES



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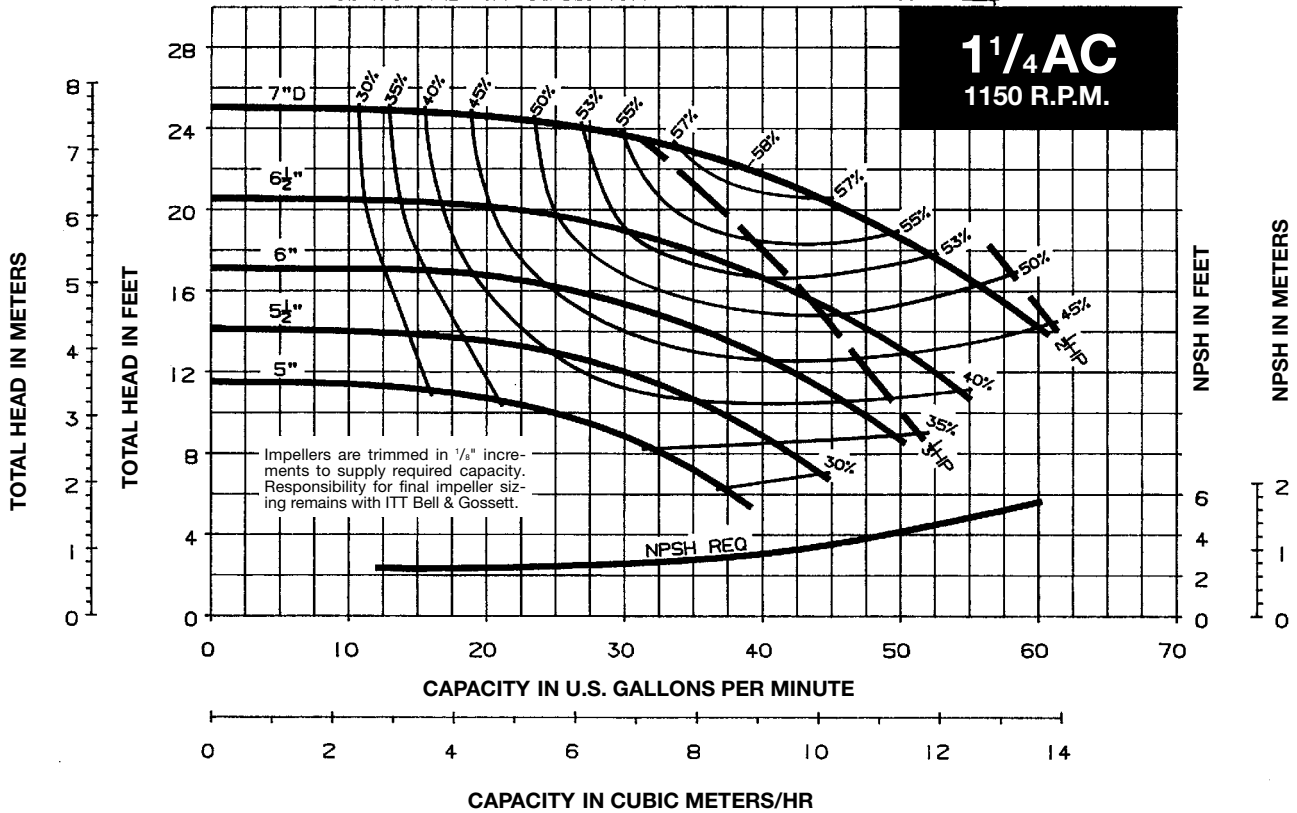


1150 RPM PUMP CURVES

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Approved *JR* Date 12-4-81

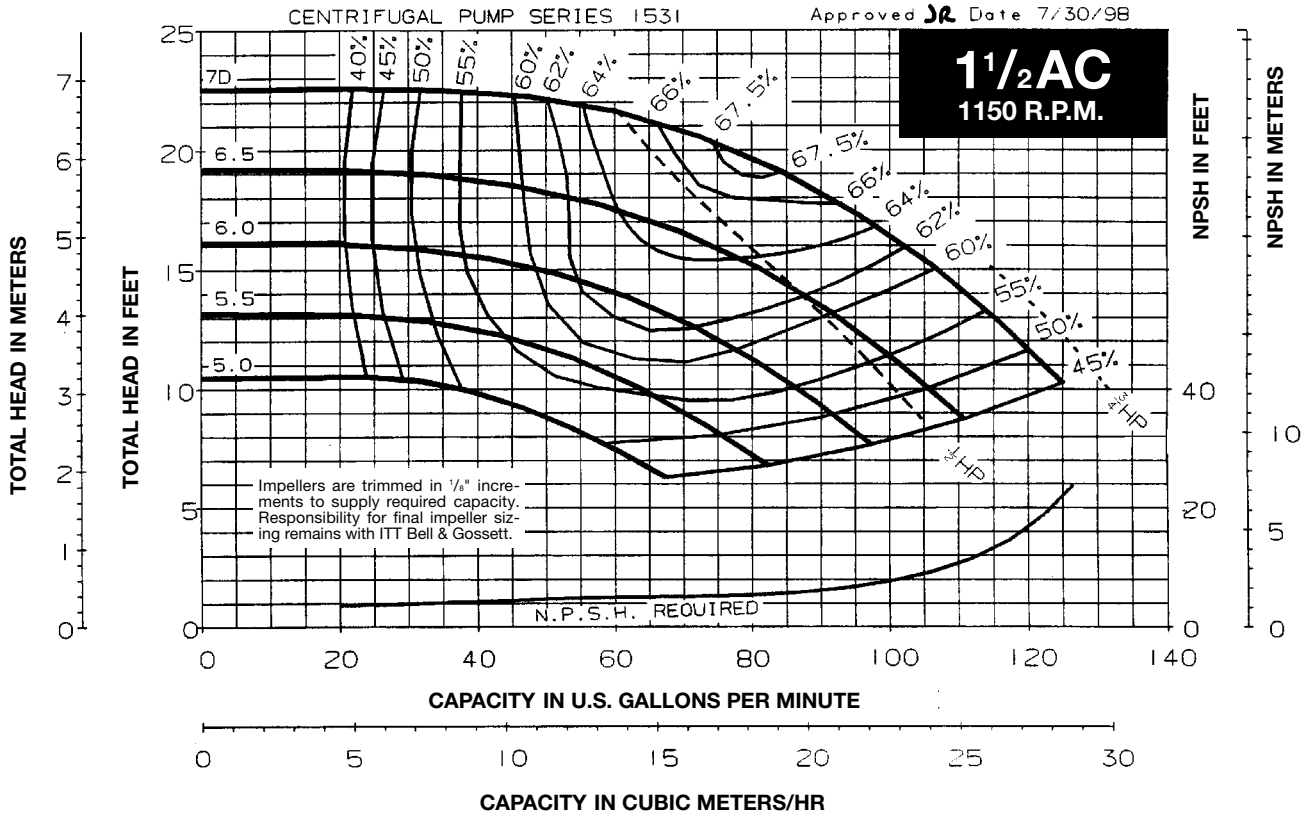
1 1/4 AC
1150 R.P.M.



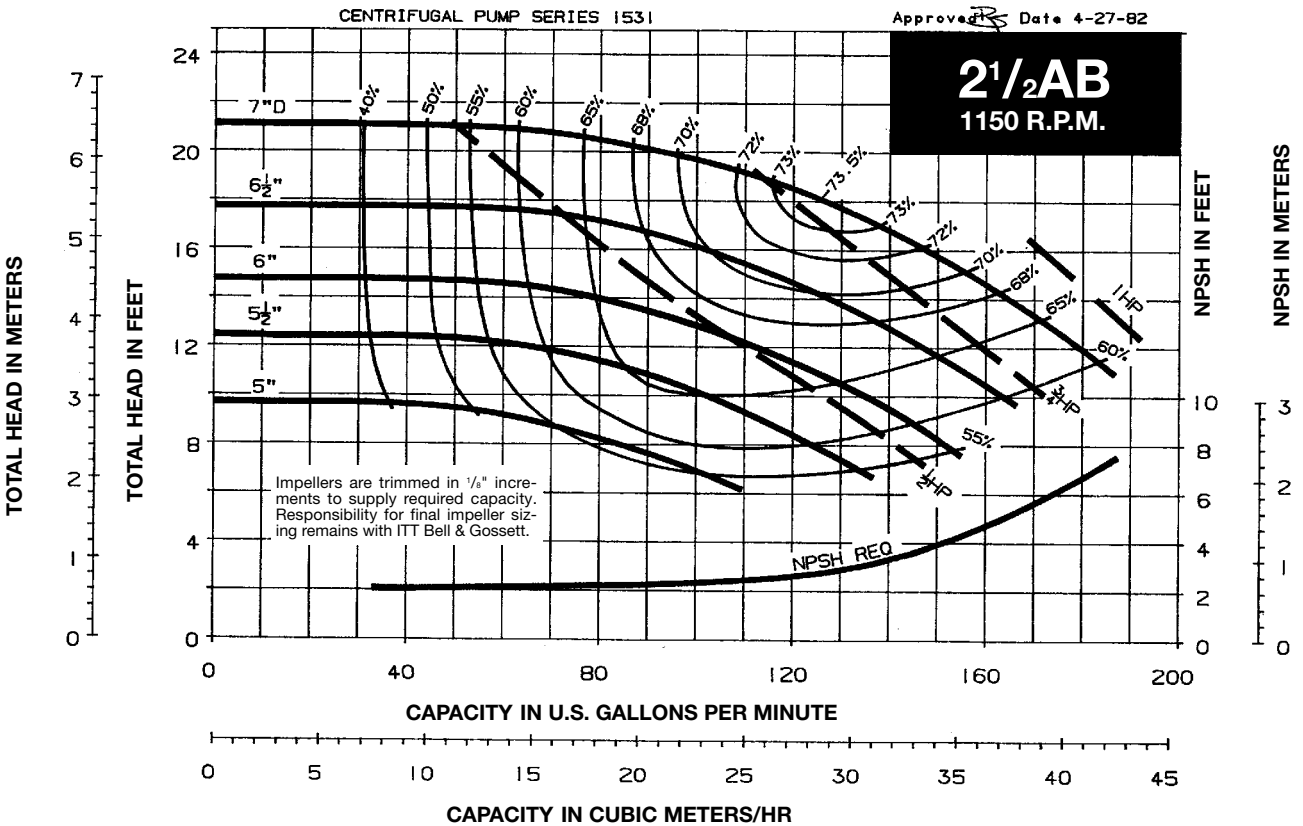
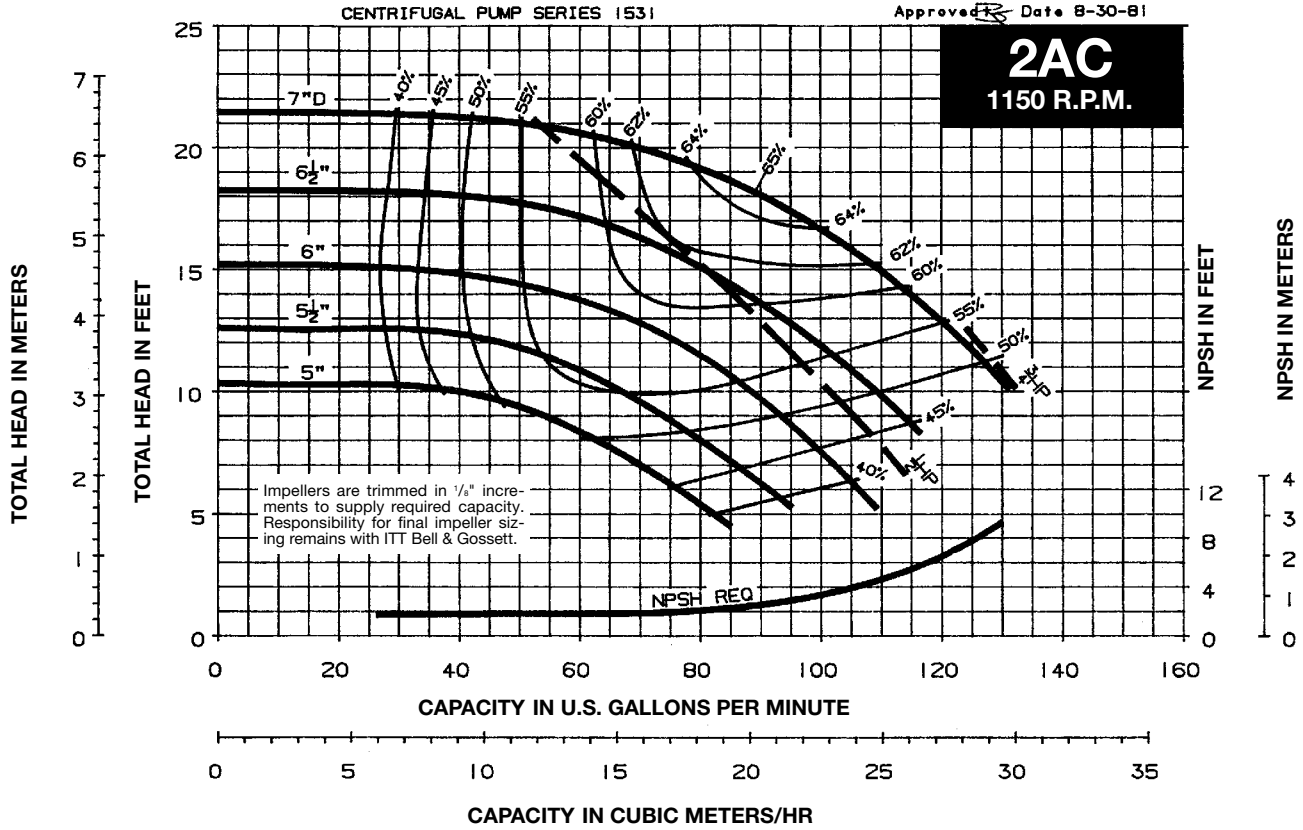
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Approved *JR* Date 7/30/98

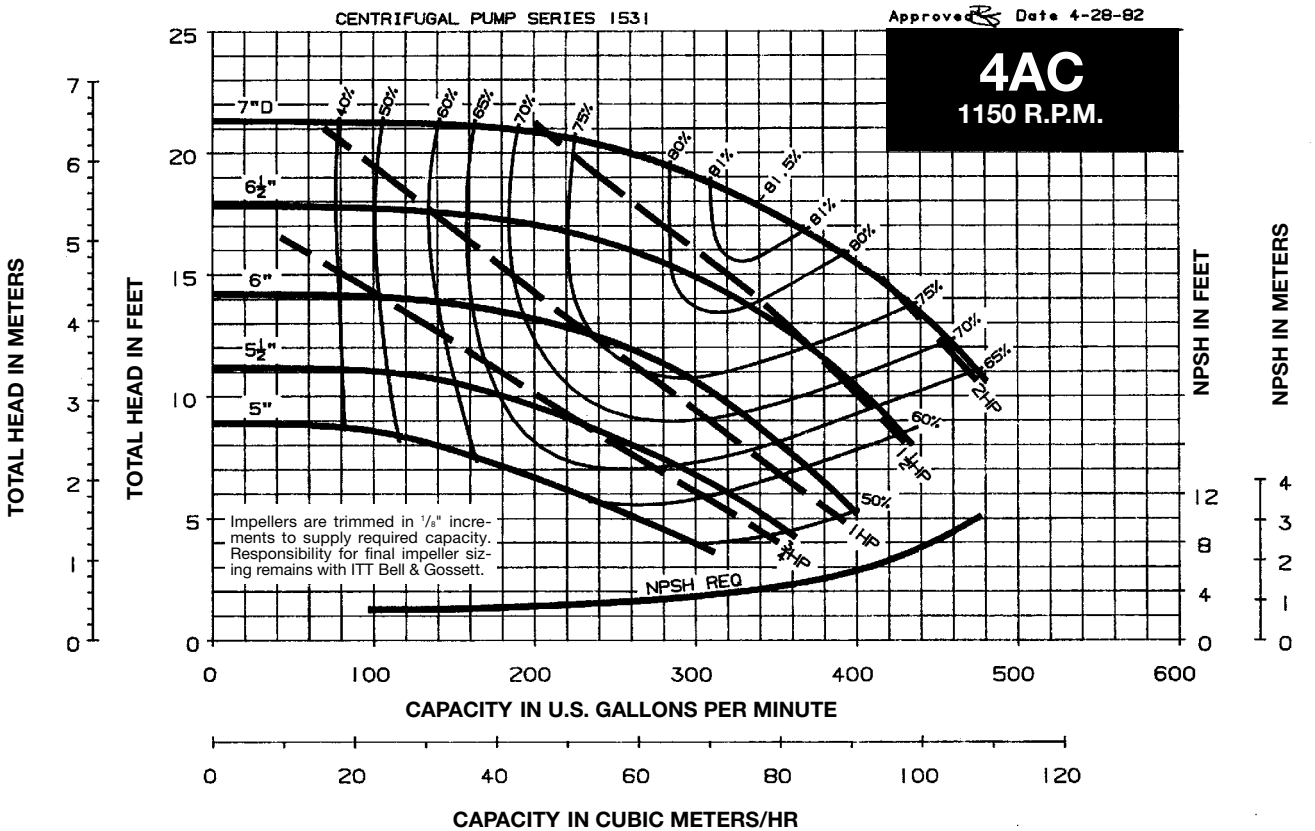
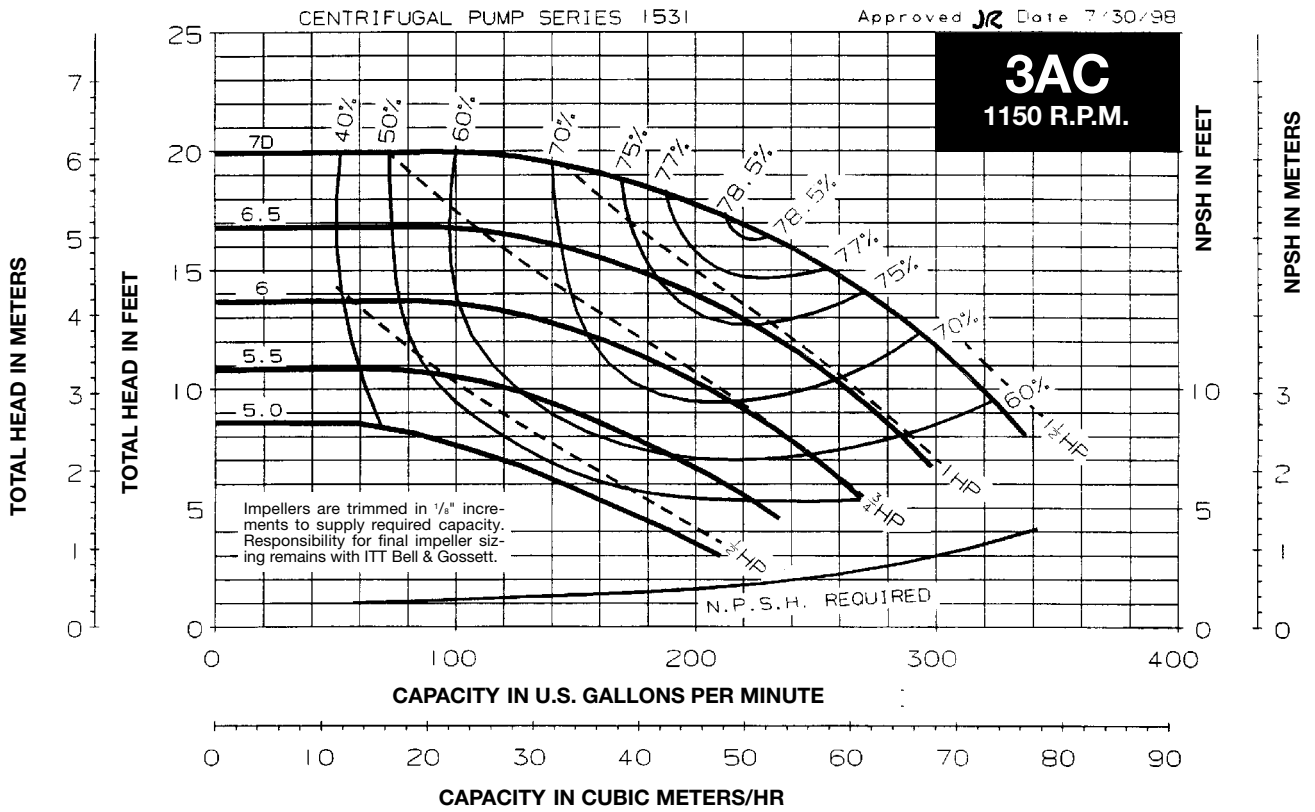
1 1/2 AC
1150 R.P.M.



1150 RPM PUMP CURVES




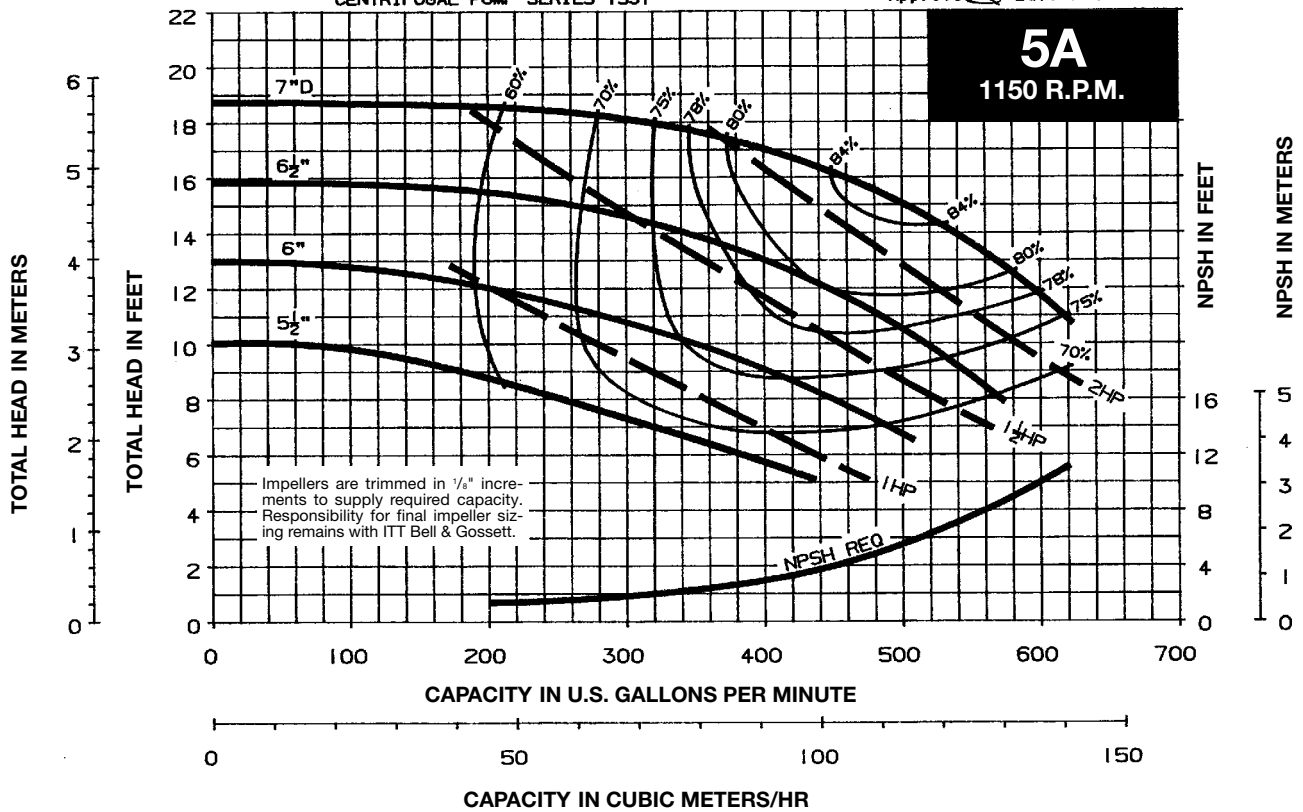
1150 RPM PUMP CURVES




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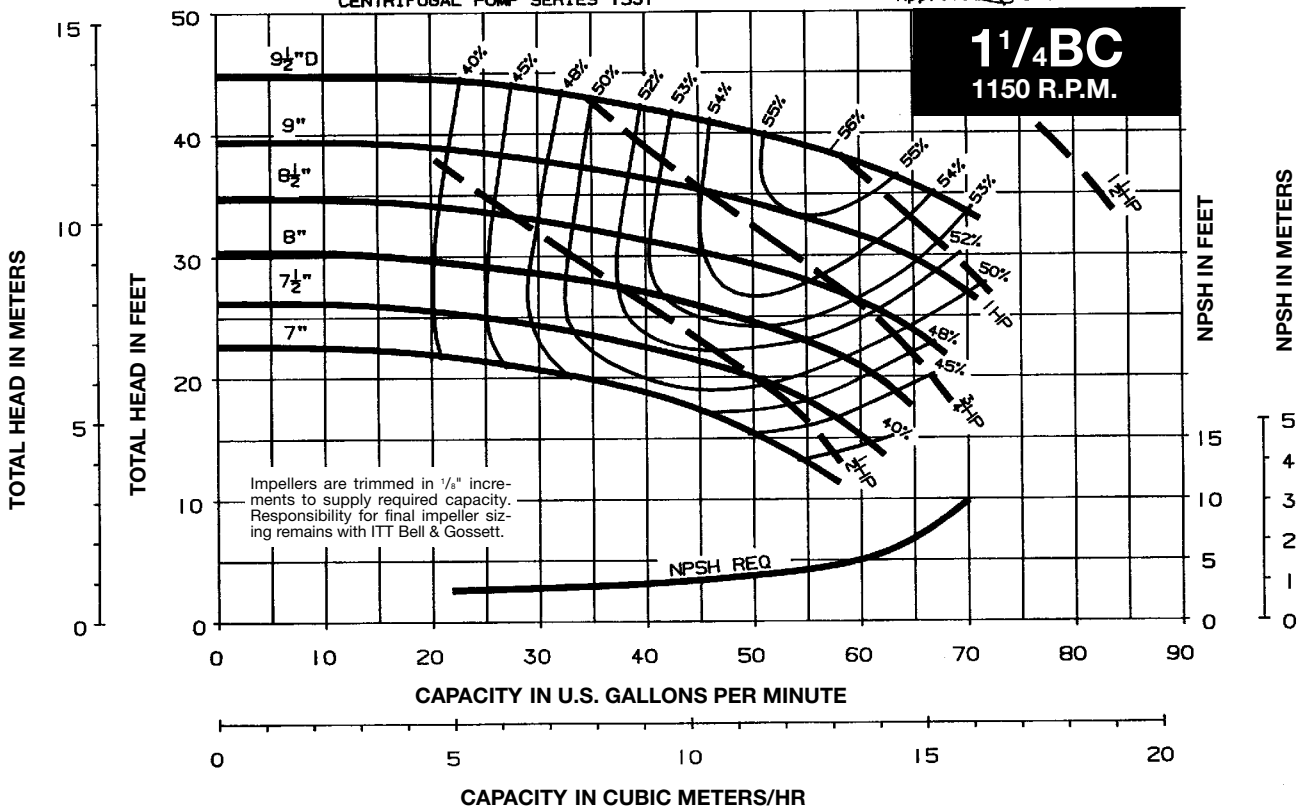
CENTRIFUGAL PUMP SERIES 1531

Approved  Date 7-21-78

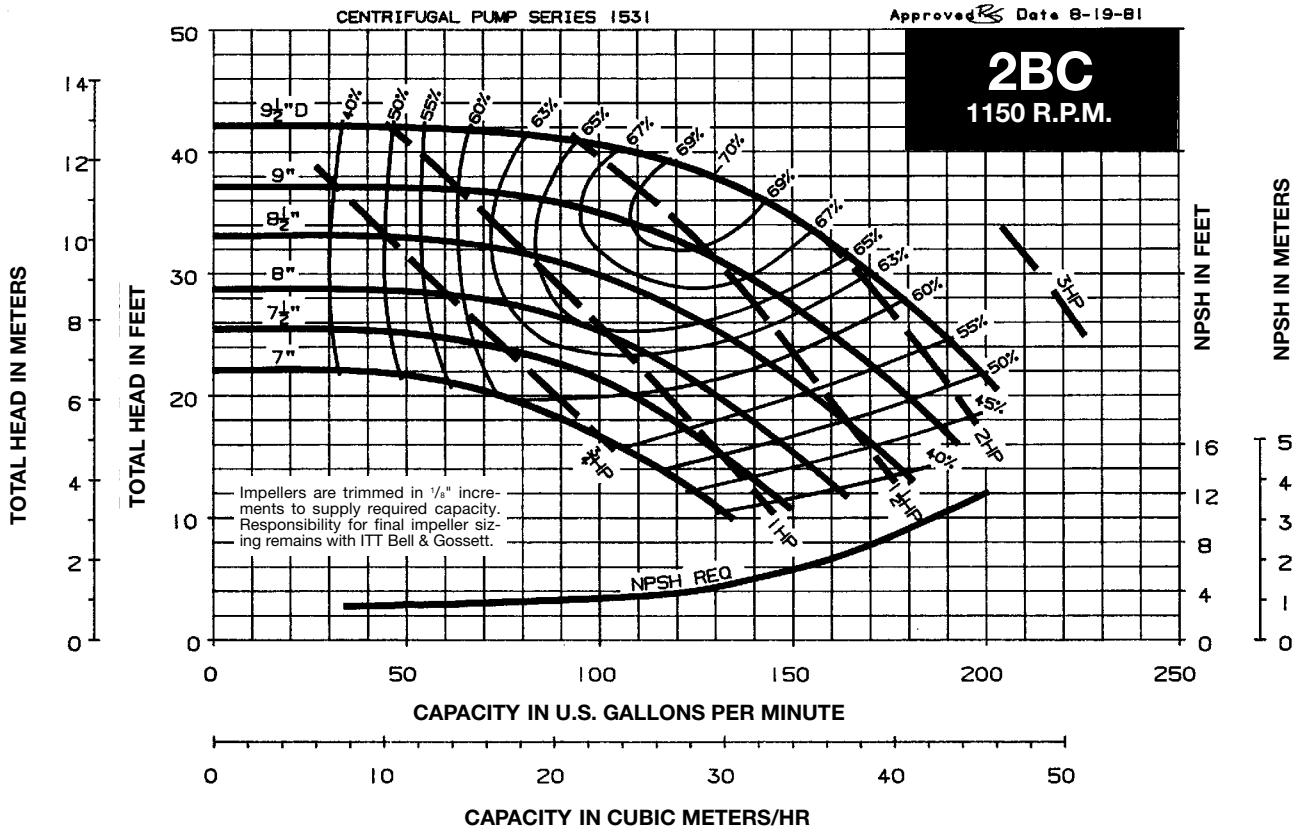
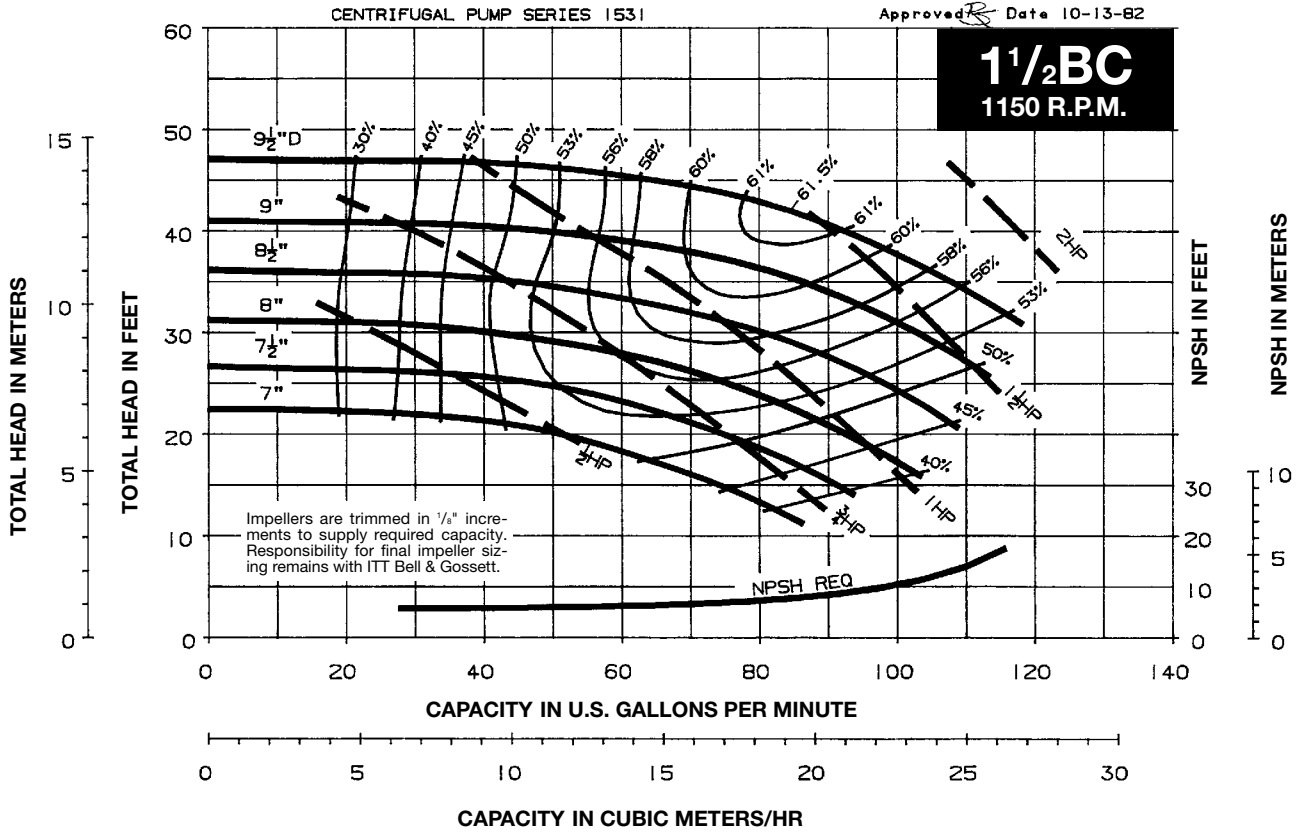


CENTRIFUGAL PUMP SERIES 1531

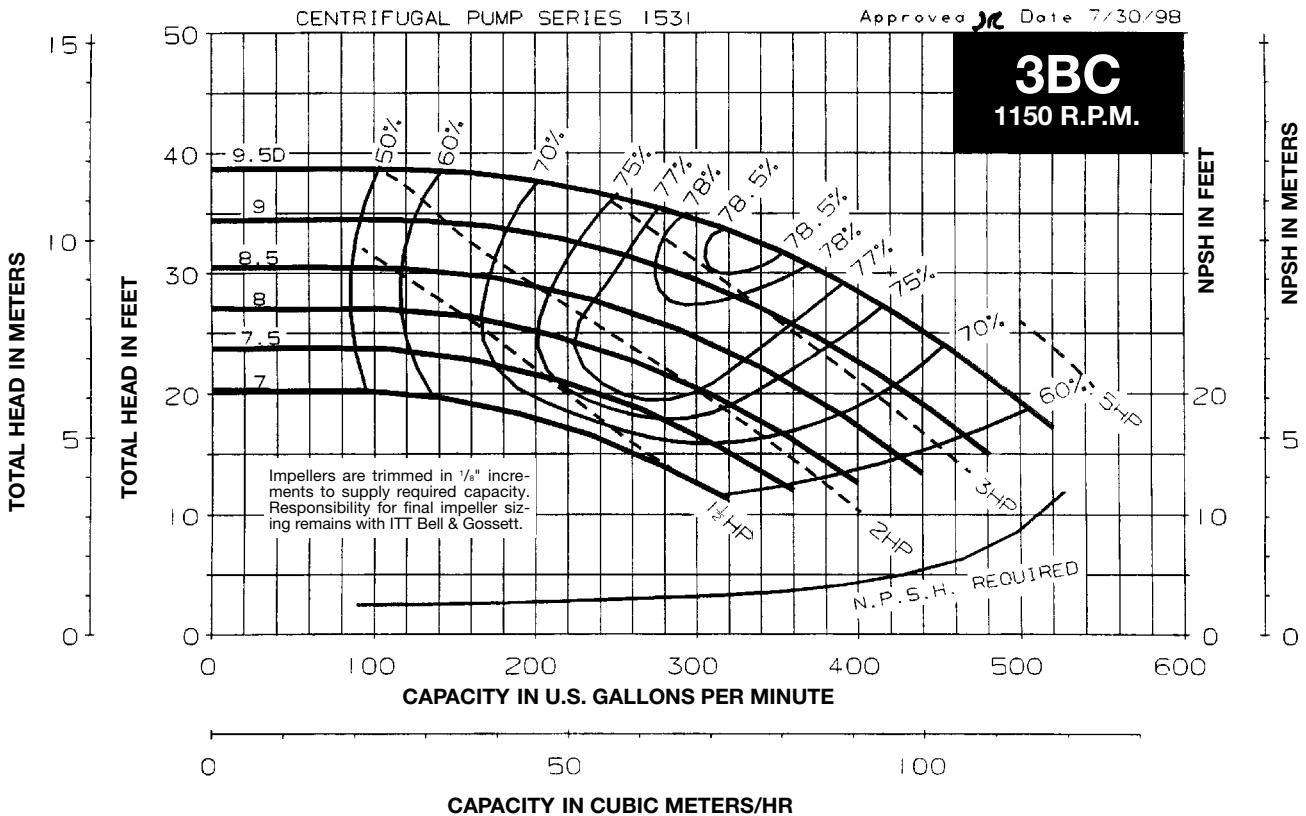
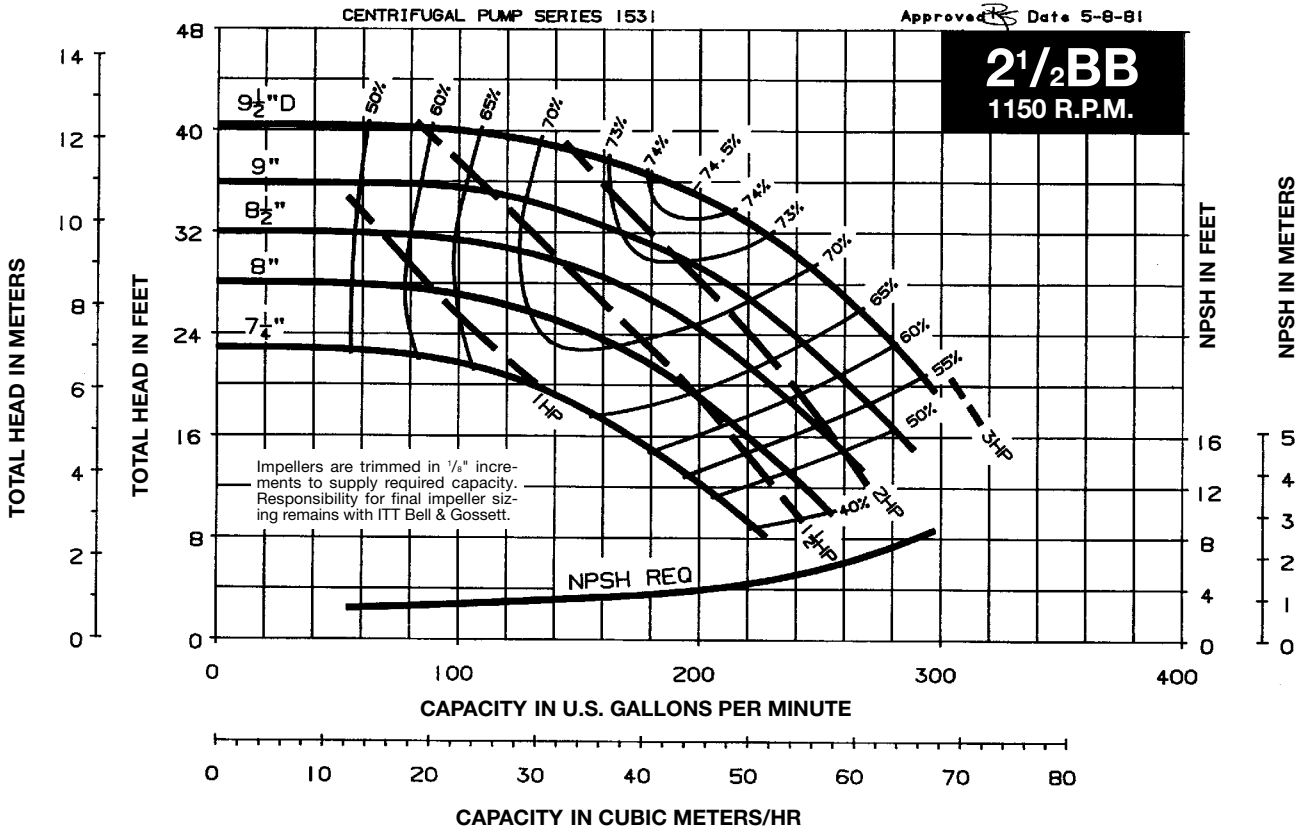
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1150 RPM PUMP CURVES




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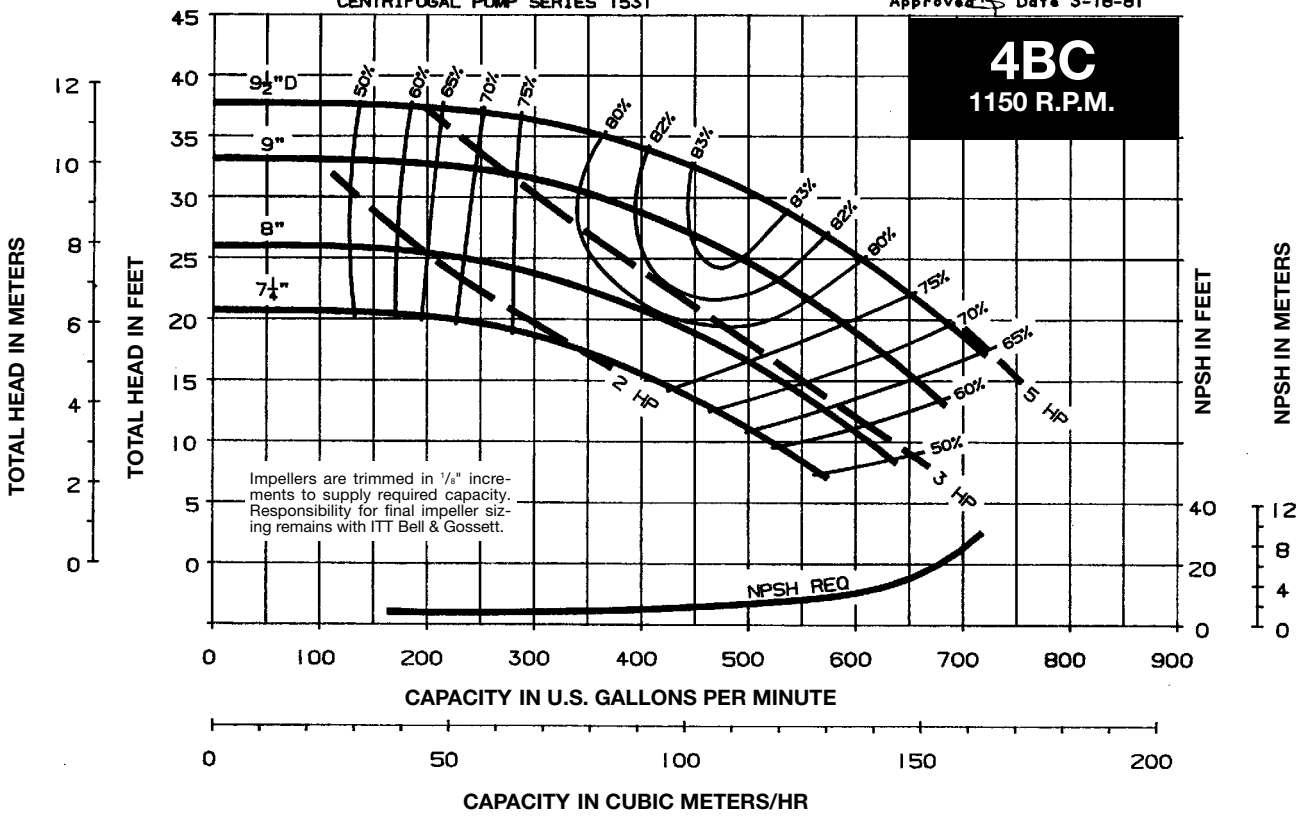


1150 RPM PUMP CURVES

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Approved  Date 3-18-81

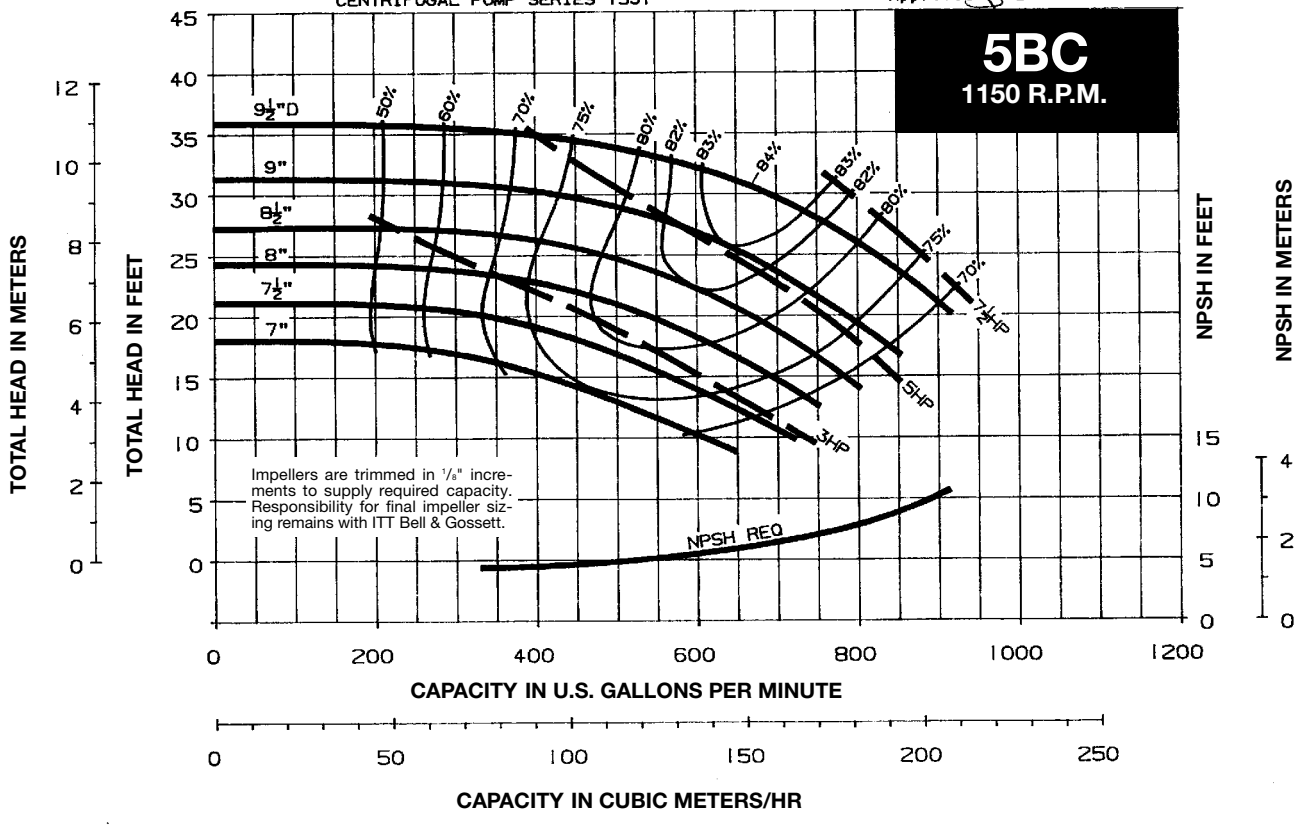
4BC
1150 R.P.M.



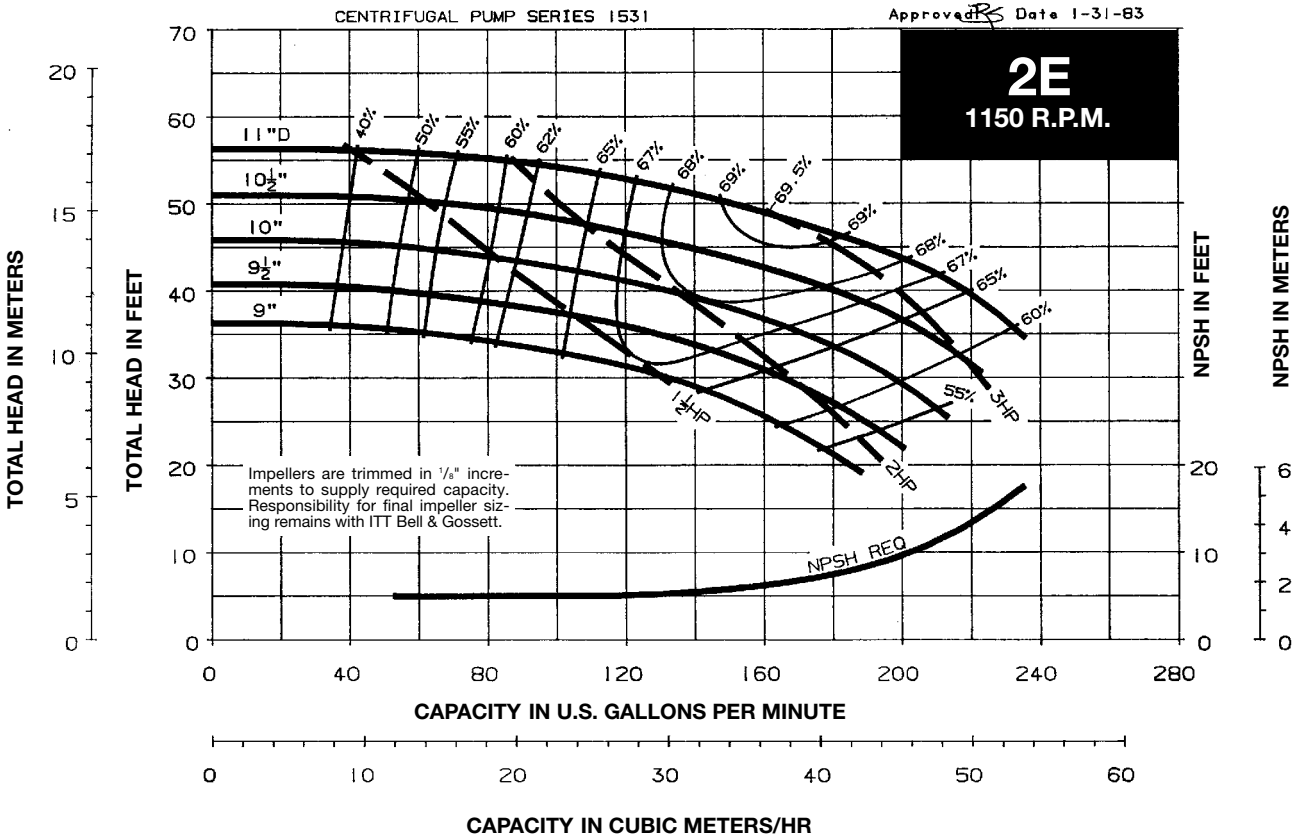
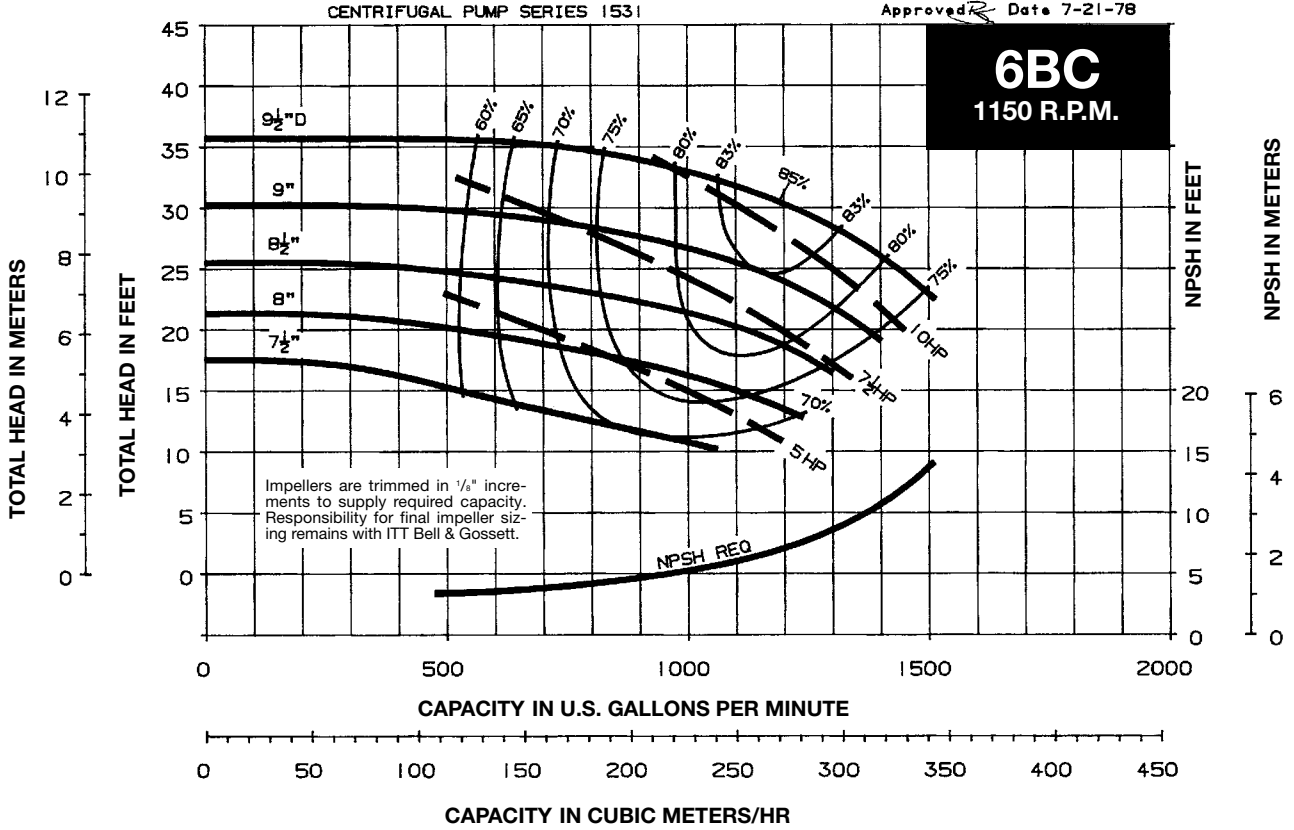
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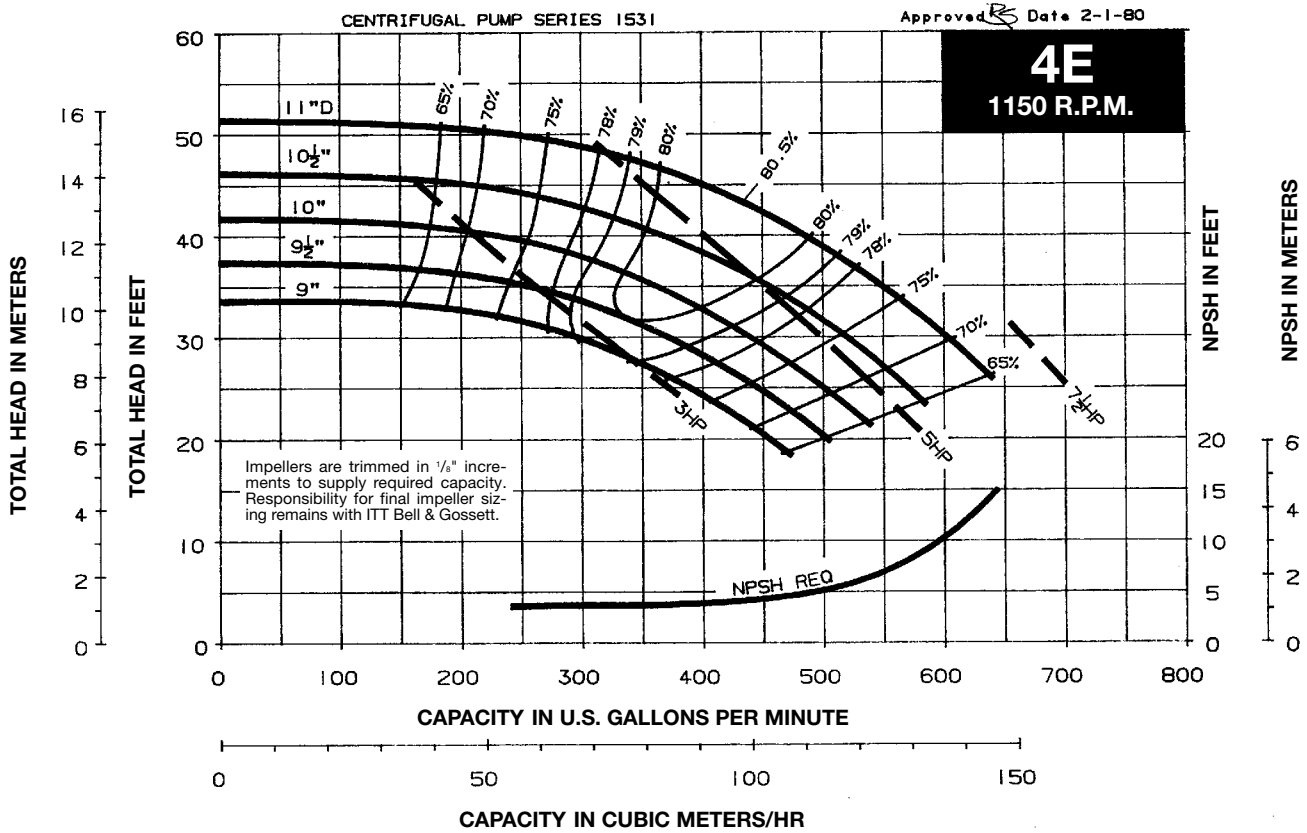
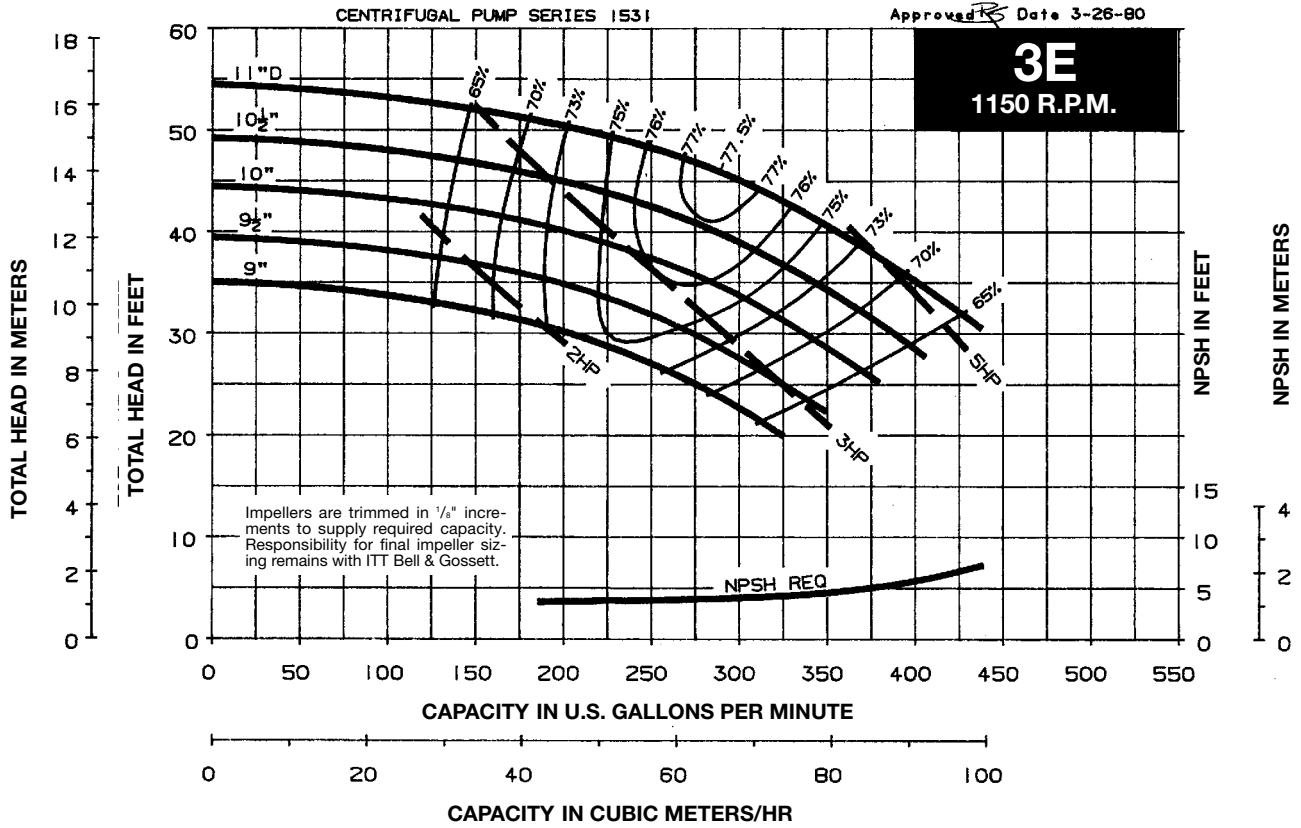
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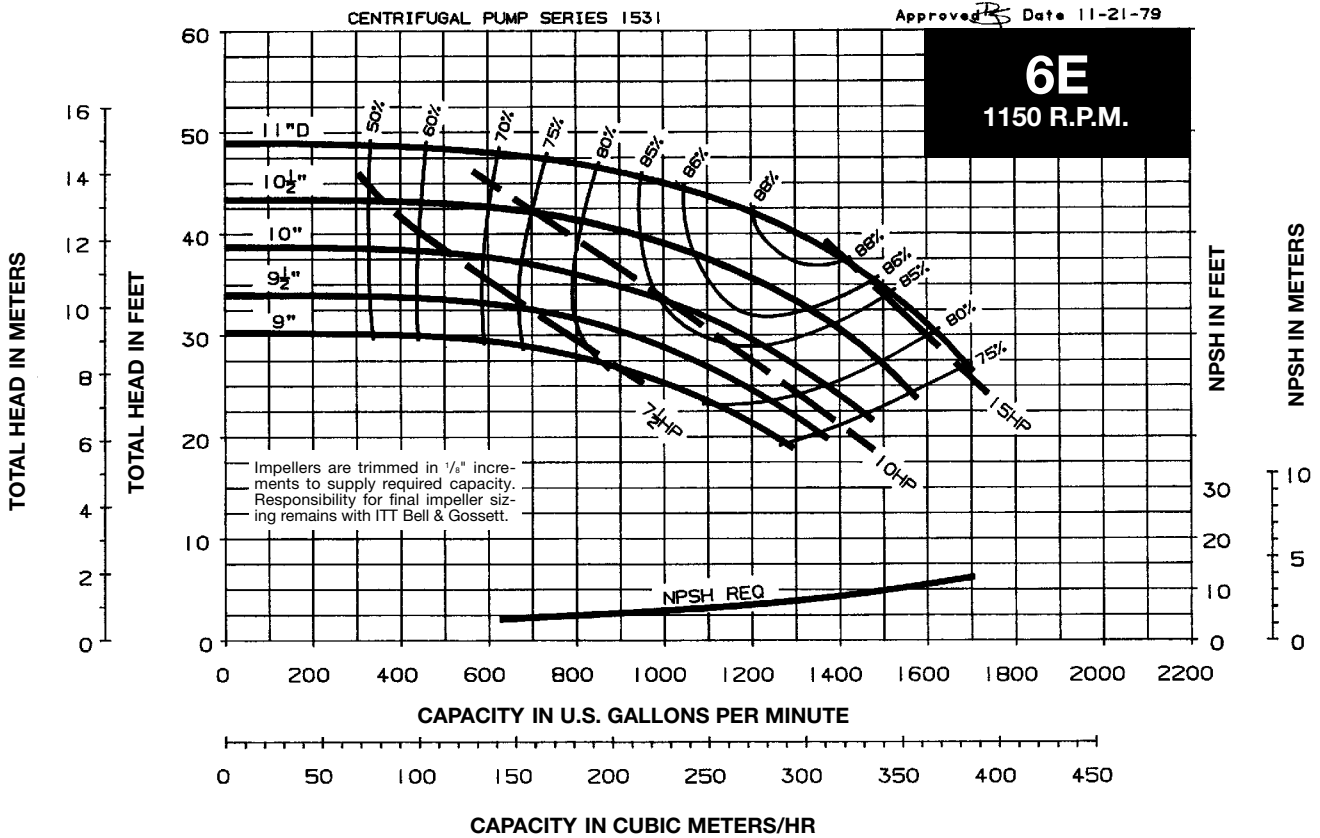
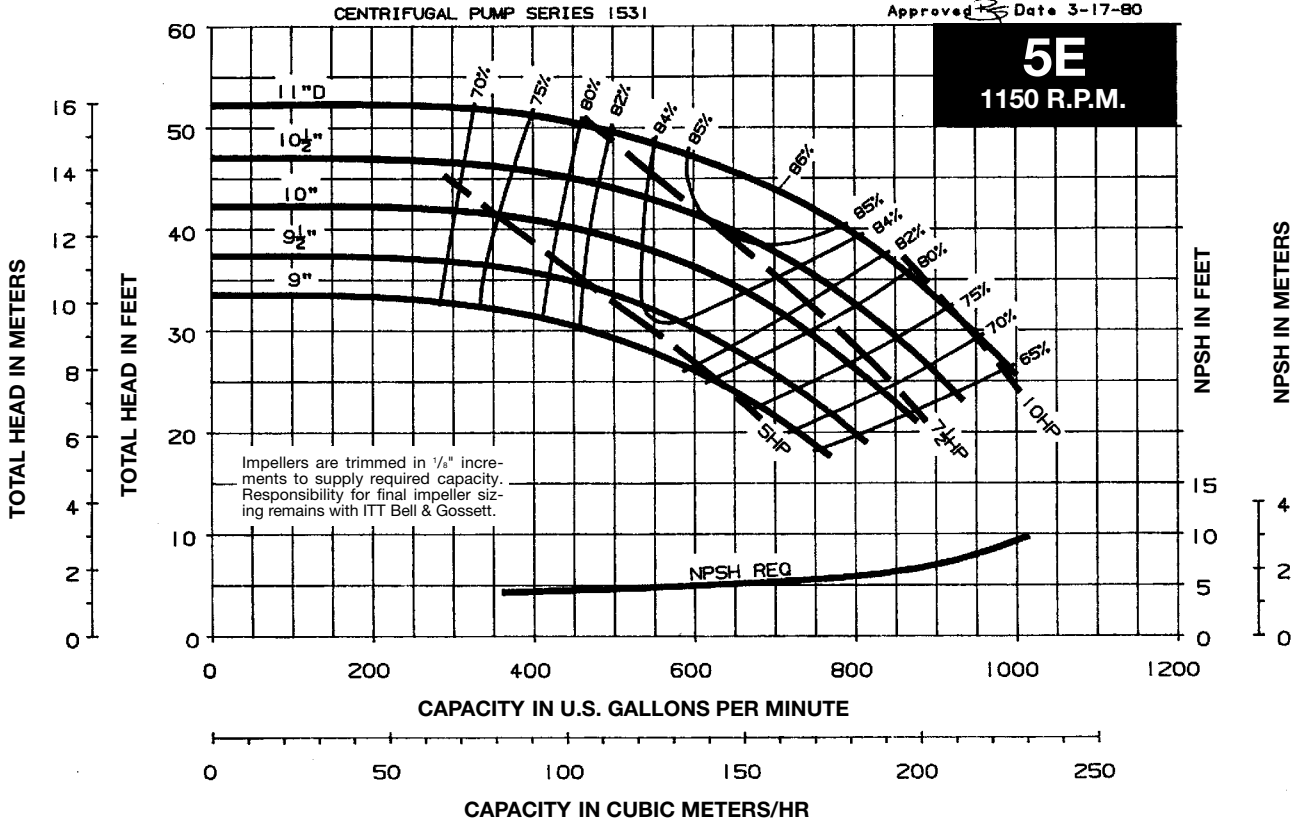
1150 RPM PUMP CURVES



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1150 RPM PUMP CURVES



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