

Professional Pump Selection Analysis

Project Information

Prepared For:	Engineering Client
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Executive Summary

Confidence Level: Good

The 24 WLN 42A with the 1102.0mm impeller is an excellent match, operating at 84.05% efficiency for the required duty, ensuring optimal energy use and reliability.

Site Requirements

PARAMETER	VALUE	UNITS
Flow Rate	6855.0	m³/hr
Total Head	86.6	m
Liquid Type	water	-
Application	general	-
Temperature	20	°C
Specific Gravity	1.00	-

Selected Pump Specification

General Information

Manufacturer:	APE PUMPS
Model:	
Series:	Industrial Series
Pump Code:	24 WLN 42A
Description:	APE Industrial Series pump designed for reliable water handling applications
Construction Type:	
Orientation:	Horizontal
Impeller Size:	1102
Nominal Speed:	735
Quality Rating:	

Performance Analysis

Operating Point Performance

PARAMETER	REQUIRED	ACHIEVED	STATUS
Flow Rate	6855.0 m³/hr	6855.0 m³/hr	✓ Met
Total Head	86.6 m	86.6 m	✓ Met
Efficiency	-	84.0%	Excellent
Power Consumption	-	2121.6 kW	Optimized
NPSHr	< NPSHa	4.5 m	Adequate

Technical Reasoning & Selection Rationale

Best Efficiency Point (BEP) Analysis

The selected operating point for the 24 WLN 42A (1102.0mm impeller) operates at 84.0% efficiency for the required duty of 6855.0 m³/hr at 86.6 m. This operating point ensures good hydraulic performance and reliable operation within the pump's design envelope.

Selection Criteria Matching

This pump was selected based on comprehensive analysis of hydraulic performance, efficiency optimization, and application suitability. It achieves an excellent overall suitability score of 0.0/100 for your specific requirements, making it our top recommendation. Key factors include its precise match to the duty point and its operation at peak efficiency.

Application Suitability

The 24 WLN 42A is well-suited for general applications like yours. Its centrifugal design and robust construction provide reliable and efficient fluid transfer, meeting the demands of reliable water handling within the recommended operating envelope.

Alternative Options Considered

MODEL	MANUFACTURER	EFFICIENCY	POWER	SCORE	KEY DIFFERENCE
24 WLN 46A	APE Pumps	0.0%	0.0 kW	89.1/100	Lower overall suitability score
20 WLN 28C	APE Pumps	0.0%	0.0 kW	87.0/100	Lower overall suitability score

Recommendations & Next Steps

Important Recommendations:

1. Proceed with detailed pump sizing and mechanical specifications
2. Excellent efficiency selection - consider energy savings analysis
3. Verify available NPSH at installation site meets pump requirements
4. Consider motor sizing based on calculated power requirements
5. Review installation requirements and piping system design
6. Schedule factory acceptance testing if required

Performance Curves

Performance charts are being generated...

Advanced Pump Engineering Solutions

For technical support and detailed quotations, please contact our engineering team.

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