



By Douglas Bartholomew

✓ Pump Query Checklist

From station conditions to vendor experience, knowing what questions to ask when purchasing or renting portable pumps

The time has come again to decide if it is cost-effective to purchase portable pumps for your organization or continue to rent on an as-needed basis. There are several factors involved in this decision.

Do you have a large number of stations that have relatively similar hydraulic conditions? In other words, can you purchase one or two pumps that will fit a variety of applications? The best way to answer this question is to have your portable pump vendor analyze it for you. Have your vendor look at the head and flow conditions of your stations, collections system or plants and come up with the best pump or combination of pumps for your stations. If the flow and head conditions vary greatly, it may be difficult to find one or two pumps to satisfy these diverse demands.

Secondly, is your organization going to purchase two pumps for each configuration in order to provide redundancy if a station is totally down? Remember, a temporary bypass should have the same characteristics as your permanent station—redundancy, integrity in piping, isolation ability, auto-start capability, telemetry, etc. If the configurations are very diverse, the best decision may be to continue to keep the contingency plans you have or get your vendor to create contingency plans for your station (see the March 2007 issue of *Water & Wastes Digest*).

Choosing the Best Product

If purchasing temporary portable pumps is a viable option for your organization, then the task turns to choosing the best product to satisfy your needs. There are several factors to take into consideration when making a significant capital expenditure.

Primarily, what are the standards set forth by the manufacturer you are considering? Has your manufacturer taken the time to submit to ISO registration? ISO is a very time-consuming process that demonstrates consistency in manufacturing certified by an independent outside firm.

Is your manufacturer a member of the Contractor's Pump Bureau (CPB)? The CPB's stated mission is to develop and publish industry standards for contractors' pumps and auxiliary equipment, promote the common business interests of its members and the industry as a whole, and pursue other activities that may lead to

cost-effective production, improved customer service and increased knowledge in the manufacturing of safer and more efficient products.

If your vendor is not a manufacturer, it is important to investigate how long it has been representing its manufacturer's product and what level of support it receives from the manufacturer. Many companies are almost an arm of the manufacturer, while others change product lines as quickly as they change socks. The initial sale is not nearly as vital as the service received over the years you will be utilizing your pump. Building a solid relationship with your "pump guy" is vitally important to your organization whether you are renting or purchasing.

What is Important?

One of the trickiest hurdles is deciding what is important in internal pump construction. Some manufacturers promote superior materials of construction, but it is important to decipher if these materials are necessary. Cast chromium is a good durable material, but it is twice as expensive as cast iron. Consequently, rebuild costs are significantly higher. Is it possible that a manufacturer can provide a product with cast iron internals that performs as well as cast chromium internals? If so, the rebuild costs will be significantly less. If hardness is a factor, can hardened cast iron materials be substituted for cast chromium materials?

How do manufacturers compare in shaft diameter and bearing arrangement between comparable pump models? What is the mechanical seal arrangement, and how does that affect the maximum casing pressure? All pumps will need to be rebuilt, so it is important to understand what those rebuild costs will be and reasonably understand how wear impeller affects pump efficiency.

Closely tied to internal material construction is internal design. Does the manufacturer have an open or closed impeller? The primary question is, what is the efficiency of the pump end? How much product can the pump end move at your head condition, and what horsepower is required?

Horsepower relates directly to fuel consumption. Also, what is the size of the fuel tank, and how long will a tank of fuel last?

How 'Green' is the Product?

Another big question in today's culture is how "green" a product is. As previously discussed, fuel consumption is a component of a green product. However, there are other factors to consider. What control systems are offered by a manufacturer's product? Are float controls an option? Beyond floats, can a manufacturer offer an affordable transducer control that will not only start and stop a pump but vary the speed as flow dictates?

With regard to priming, does the manufacturer's product carry over product through the priming system that must be captured, or is the entire product conveyed into the pump discharge? In a venturi priming system, carryover of abrasive product also contributes to deterioration of the priming components,

which increases maintenance costs.

A green environment incorporates many components for consideration. For instance, if your organization has pump stations in highly populated areas, it is important to investigate whether your vendor offers canopies that reduce noise. If it does, can the pump you are purchasing have a canopy added at a later date, or is the trailer/skid configuration totally different for a silenced unit?

Level of Support

Finally, it is vitally important to consider what level of support you can expect to receive from your vendor or manufacturer. You must visit your vendor's location. What parts are on the shelf? What level of stock does your vendor have to support your organization if your unit is down, not applicable or in need of a supplement? How quickly can parts be delivered from the manufacturing facility, and what level of stock is maintained? Most importantly, how well do you

know your pump vendor? How many times has your pump guy been "in the trenches" with your people in the middle of the night?

Ultimately, the portable pump rental/sales industry is not about sales but the relationship you have with your vendor. Bypass pumping-weather rental or sales support is a 24-hour business. When you make a call, you need the confidence that your pump guy will have the answer. **PS**

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