The Duty-Factor

Choosing The Right Pressure Cleaner

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Definition of Duty-Factor

The duty-factor could simply be the product life. The duty-factor could be more specifically defined as the length of time a pump runs between servicing and the type of performance during this time frame.

Elements determining Duty-Factor

The duty-factor is affected by many variables including time, application, design, installation, system components and various costs.

Time

- Does the product run 24 hours per day, 365 days per year?
- Is it intermittent duty for 3-4 hours per day, 5 days a week?
- Is it light duty for 2-3 hours, once a month for 3 month per year?

Application

- Is it pumping fresh water, mild soaps, sanitizers?
- Does it pump harsh seawater, chemicals, wastewater?
- Is it high temperature, require suction feed, or present other stressful conditions?

Design

- Has the product been designed for continuous-duty, intermittent-duty or light-duty?
- Are the materials of construction compatible with the liquids being pumped and other system components?
- Is the product held to close tolerances, quality testing and intended for the type of application?

Installation & System Components

- Is the proper plumbing used in the system?
- Are the proper safety devices installed?
- Is the power source adequate for the system and has it been properly installed?
- Do all accessories have comparable specifications and duty-factors?

Costs

- How often does the product need servicing?
- Is the product easy to service or does it require trained technicians and considerable downtime?
- How much is production or service interrupted if the system goes down?

Look-a-like Products and Different Users

Products that look-a-like, but have different costs are not always what they seem. Whether it's an individual product or a complete system, they only look-a-like to the unfamiliar viewer. Materials of construction, tolerances in manufacturing, design functionality of the product, previous experience in the application and the duty-factor all affect the cost of the product. Most important, the purchaser should not consider the cost of equipment alone, but operating costs, and purchasing cost, to determine the true value of the product.

Those products with the quality materials, high manufacturing tolerances, product testing and field proven performance should be used for the continuous-duty applications, while products with

lesser quality and performance ratings may be acceptable for the light-duty applications.

Consumer, commercial and industrial units, typically, do not look-a-like and do not have the same level of quality components or duty-factor.

Duty Factor Rating System

The best rating system is determined by historical data, customer testimonials, field proven results and market share of product. Customer confidence and user satisfaction is reflected in the numbers of that product in use. Heavy-duty applications require dependable products. Dependable products are those that have proven to operate successfully over time. Confidence comes from a manufacturer who has continually introduced products with a consistent quality performance record.

Marketing Products

Products should be carefully marketed to the intended end user with industry, application and duty-cycle the main criteria. Participation in trade shows and advertising in publication that focus on the products' intended market, application and duty-cycle will assure a better product fit. A supplier with a well informed technical staff to ask the correct questions at the first inquiry will also assure a proper product fit.

How Duty Factor affects Design and Servicing

Typically when a system is designed around a high quality product, all the components of the system are high quality. This promotes long life, minimum maintenance and low service costs. As the cost of the equipment goes down, so does the quality of the components used and, as a result, the duty-factor typically increases. In a heavy-duty use application, the high quality and low duty-factor are more important, while in a light-duty use application, the higher duty-factor may not be as significant a concern.

Sometimes not all aspects of the system or application are initially known or carefully considered and improvements to the system can be made by upgrading a component in the system or making modifications to a component. In pressure cleaning equipment, a higher quality pump can be substituted to improve the duty-factor. In a high quality unit, modifications such as a secondary safety devise, temperature protectors, auto-shut-off devices or internal special elastomers can further improve the duty-factor.

Levels of Duty Factors

Pressure Cleaners have basically three levels: consumer [light duty], commercial [intermittent duty] and industrial [heavy duty].

It is important to assess the type of task being done, the time required to complete the task and the frequency or repetitiveness of the task before selecting the pressure cleaner. And, most importantly, do not select your pressure cleaner on initial purchase cost alone.