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TO: Hale Engineering, Sales, and Marketing Personnel

Why should Rural Fire Departments consider a Qmax Pump?

Some Rural and Suburban Fire Departments still feel they do not "need" a large body 1500 gpm pump such as the Qmax. Such departments may not have adequate hydrants or pumping stations to move over 1000 gpm. Typically a smaller midship pump or a PTO pump may be fitted to an apparatus that could actually carry a 1500 or 1750 gpm midship pump.

Fire Departments regularly asses their own needs and write their own specifications, however Hale Products, as the "Single Stage Fire Pump Technology Leader" can assist the Fire Apparatus Committee in selecting the most powerful Fire Pump available. Before the Fire Department settles for less than the maximum fire fighting flow capabilities, they should consider the reserve capacity offered by a large body midship pump. The typical pump size for many suburban and rural departments is in the 1000, 1250, and 1500 gpm range. Sometimes a 1000 or 1250 gpm "small-body" midship pump will be specified.

If there is a river or lake in the district that could be used as a source of water, the large body midship pump can provide the lift required to move larger volumes of water thru additional lengths of suction hose and elevation that may be between the Fire Apparatus and the water source. The water source may not be within 10 vertical feet of the nearest place the pumper can park. (NFPA rates pumps at 10 feet of lift.) Start adding additional suction hose to reach the water and performance can degrade quickly.

As a real-life example of a "high-challenge" drafting situation, a Qmax 1500 gpm midship operating from over 15 feet of lift thru 5 lengths of 6 inch suction can draw up to 1100 gpm. Note the reduced performance due to the additional suction restrictions.

In the same situation, a Qpak 1000 gpm pump with 5 inch hose would draw up to 650 gpm, while an AP 500 gpm pump with 4.5 inch hose would only be able to draw 400 gpm. Even if the smaller pumps were equipped with the next size larger suction hose they would only gain 100-150 gpm. Clearly the large body pump can deliver much more powerful flows from difficult drafting conditions that can often be found outside the cities.

The numbers cited here are for sea level and standard barometer. In the case of a bad weather where the barometer is low or in higher elevations, the maximum flow capacity will be further reduced.

The larger reserve capacity of the Qmax "large body" midship pump can make the difference when higher flows are required. The department that buys a 1250 or 1000 gpm pump may not get the flow they expect when they need to pull water in a difficult drafting situation.

The technical reason for this phenomena is defined by the lift capabilities of Modern Centrifugal Fire Pumps, and is true for all brands of Fire Pumps. Other Fire Pump manufacturers typically also have a small and large body lines of Fire Pumps. By influencing the specifications towards a large body (1500 gpm or larger) midship pump, we give the Fire Department additional reserve capacity.

Where the Fire Apparatus is a full size chassis, the engine is typically 300-350 hp and can drive the larger body Hale Qmax 1500 or even 1750 pump w/o additional cost. The Qmax 1500 can also be equipped with a 5 inch NST MaxFlow discharge valve that provides high flow for LDH while meeting the NFPA 1500 gpm requirements w/o adding additional valves. (On typical apparatus) In most cases, the Qmax pump fits in the same apparatus body as the smaller pumps. We can also provide a Qflo or Qpak small midship pump, but the Fire Department should realize what they are buying.

Departments in high elevation areas already know this and often buy the Qmax pump in place of smaller pumps. When reviewing specifications for a rural or suburban pumper, make sure the Fire Department has all the facts regarding pump selection, and the reserve capacity offered by a Qmax 1500 or 1750 gpm midship pump. Coupled with the best selection of accessories such as the MaxFlo line of valves, Thermal Relief Valve and TPM or Class1 Governor, the Apparatus can be ready to respond to high challenge Fires where-ever they occur.

For your Information,

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