

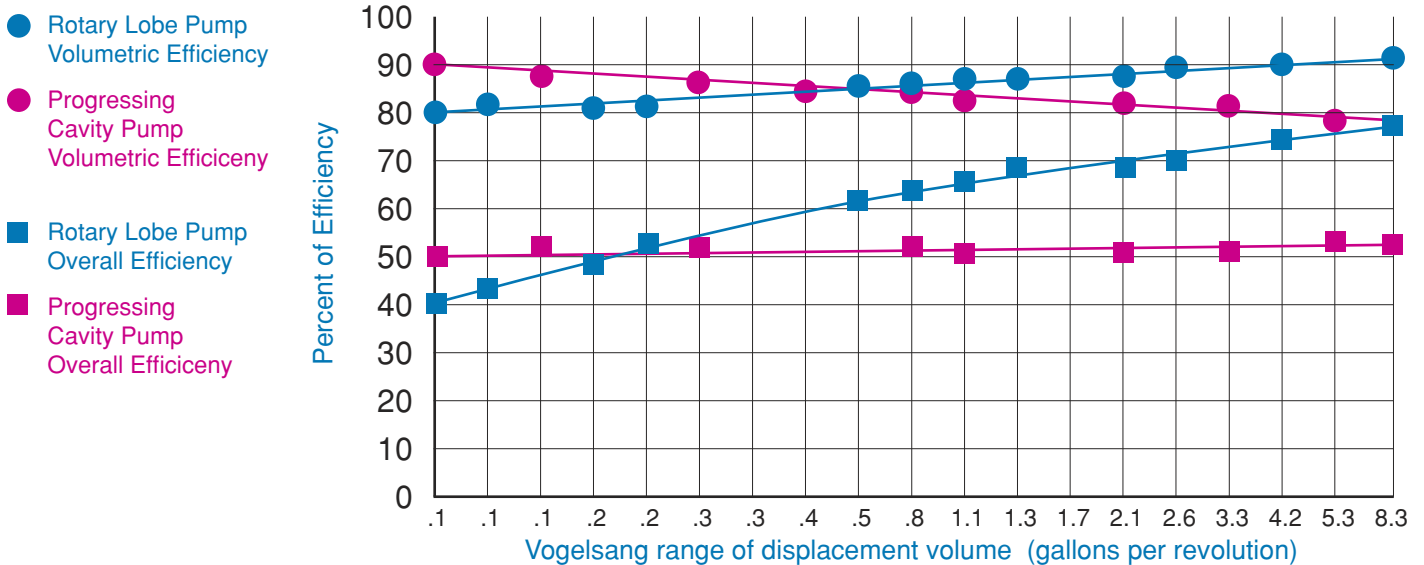
Advantages



VOGELSANG

Sludge Pump Division

Efficiencies of Rotary Lobe Pumps vs. Progressing Cavity Pumps



Tech Tip

Advantages of Vogelsang Rotary Lobe Pumps

Like progressing cavity pumps, rotary lobe pumps belong to the pump type known as positive displacement pumps. Due to its compact design, a rotary lobe pump can be advantageously used even for high discharge rates. In the following the special benefits of rotary pumps are described in comparison to progressing cavity pumps.

High Efficiency

Focusing on the efficiency one must separate the volumetric and overall efficiency. The volumetric efficiency characterizes the pump's tightness. Small PC-pumps (with small displacement volume) normally have a higher volumetric efficiency than small rotary lobe pumps.

Looking at larger pumps (high displacement volume), a rotary lobe pump has a better volumetric and a better overall efficiency.

The overall efficiency sums up both, internal leakage and the torque created from internal friction. It is obvious from the diagram that the tightness of a PC-pump is paid for with high torque.

The diagram is based on values measured while pumping water at 70 F with 58 PSI differential pressure.

It should also be noted, that the running torque of PC-pumps increases with rising fluid temperature because of the rubber expansion, while the rotary lobe pump remains constant. High mechanical efficiency equates to lower running cost, and increased performance.

Vogelsang HiFlo®
Sludge Pump



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