

How greater free passage ensures reliability

By Grundfos

A reliable pump operation is a must when dealing with wastewater and this reliability must remain at the same level year-by-year.

Through history we have all seen many attempts to increase the reliability level of wastewater pumps; some attempts with bigger success than others. Various kinds of impellers have been developed over the years; from vortex -, semi-open to single- and multi-channel impellers, and even more sophisticated creations. Moreover these pumps have often been fitted with advanced and costly add-on assemblies that in a static or an adaptive way are designed to lead, cut or treat the wastewater as it passes through the pump.

All of these hydraulic layouts have been designed in good faith but try to ask yourself: how well have wastewater pump manufacturers actually succeeded? Are you able to give thumbs up to a pump manufacturer offering you a wastewater pump that with a simple design can offer you premium reliability?

Chances are that you will say ‘No’ to this question – at this point. Often you may even agree that you have paid quite a lot of money for an advanced add-on assembly to improve the reliability level, which over time has proven little effect.

Why accept clogging problems?

So when it comes to the bottom line customers have learned to accept clogging problems from time-to-time; that is, they have learnt to live with this compromise. But why is this the case? Why do you – as a customer – need to compromise in order to have a safe and reliable pump operation?

Would it not be fantastic if a wastewater pump manufacturer could develop a wastewater pump that features simply-designed hydraulics – without additional gimmicks – that could deal with your wastewater trouble-free?

The free spherical passage through a wastewater pump is one of the key determinants for the likelihood of clogging incidents to occur. That is, the greater unrestricted free spherical passage a wastewater pump can allow the LESS risk you have for clogging.

To illustrate the above, try to picture a piece of pipe with the same inner diameter all the way through.

If the pipe is straight and has the same inner diameter, you would agree that what goes in – in one end - is likely to come out of the other. There is simply nothing to block the media under way, no disturbances, and no dead zones in the flow.

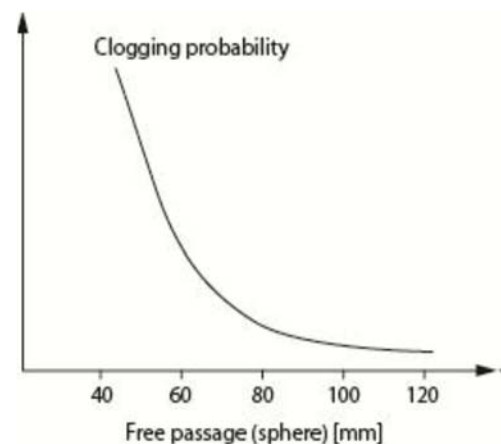


Fig. 1. Relation between free passage and clogging probability

However, if the pipe on the other hand features a reduction piece, sharp bends or similar, then what comes in is not that likely to come out the other end. This is precisely the situation for impellers and pumps!

The simplicity of a smooth pipe is actually what has created the foundation of the new **S-tube** impeller used in Grundfos wastewater pumps.

Thanks to the **S-tube** impeller, which is a high-efficiency impeller with a patented sealing system, you can rest assured that you will have unrestricted free spherical passage through the pump at any point. The **S-tube** impeller is shaped as a smooth and hydraulically optimized pipe that nestles the wastewater through the pump; from inlet to outlet – all without compromise!

And on top of that the **S-tube** impeller offers you unmatched hydraulic efficiencies. Find out more at www.grundfos.us