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# Pumping solids

The maximum size of *deformable* particles (eg lumps of yeast) that can be handled by a centrifugal pump is typically equal to the impeller vane width, except for the GP pump where the limit is 5.5mm, and the maximum size of *non-deformable* particles (eg hop seeds) is half this. The impeller vane width is shown on the MDM pump data sheet, but typical values are shown in the table below.

Liquid ring pumps are generally not recommended for pumping solids unless the particles are very fine, because of the small clearances between the impeller and pump casing.

| Pump range | Pump size* | Typical impeller vane width |
|---|---|---|
| D121 | 25 | 6mm |
| | 40-65 | 15mm |
| H141 H161, H191 | 25 | 4mm |
| | 40 | 10mm |
| | 50-80 | 18mm |
| H221 H241, H261 | 25 | 4mm |
| | 40-80 | 16mm |
| D5A | 2", 3" | 3-8mm |
| | 4" | 6-8.5mm |
| D5VA | 6" | 25mm |
| | 8" | 32mm |

*The pump size gives an indication of the size of pipework for which the pump was designed. For D and GP pumps imperial measurements (eg 1.5") are used whereas for H and CH pump metric measurements (eg 40) are used. The pump size is the beginning of the pump model name so, for example, both the 1.5"D6A and 40H261 pump models have been designed for duty flows typical of 1.5" / 40mm pipework.

Notes:

- Where a product contains abrasive particles we recommend a double mechanical seal and high-pressure flush, otherwise the mechanical seal faces will become quickly damaged.
- A pump is only suitable for the density (specific gravity) stated on the MDM pump data sheet. Where particles increase the overall density of the pumped product, the effect will be to increase the power consumption of the pump and may overload the motor.
- A pump is only suitable for the viscosity stated on the MDM pump data sheet. Where particles increase the overall viscosity of the pumped product, the effect will be to reduce the performance and increase the power consumption of the pump and may overload the motor.