



PROCESS

Need to scale up right first time? OUR EXPERT OPINION

The successful scale-up from laboratory to pilot plant and pilot to production plant is critically important. You know the required production rates that must be achieved, but how can you be certain that the process can be successfully implemented?

Furthermore, how do you select the critical operating conditions?

David Brown, Technical Director, explains some of the factors you need to consider.



So what do you need to consider in order to ensure you get it right first time?

The ability to characterise and understand the conditions of the large scale operation is important. You need to establish whether the performance in the lab can be successfully re-created at full scale and what critical variables may limit this. These include, but are not limited to:

- Agitation intensity and the effect of mixer geometry - What is required to suspend any solids, disperse gas, create droplets or complete reactions to the required quality?
- Heat transfer performance - Can you maintain the required temperature throughout the reaction?
- The residence time required for the reaction, as well as any time required for any heating or cooling stages
- Maximum feed rates, and the most appropriate feed strategies to manage them

It goes without saying that you need to ensure the process makes product of equal or better quality to that produced in the lab. You'll also need to make sure that the process runs safely and reliably, and maximises the utilisation of the available facilities.

Need someone to guide you through the process, avoiding costly mistakes?

We can help you make successful scale-up decisions and be confident in your approach because you'll have full visibility of how we've come to our recommendations.

We understand that every process is different and can support you with a combination of experience and understanding that goes beyond a simple calculation.

By working with our specialist consultants you will benefit from our proprietary expertise, which is underpinned by over 30 years of leading edge industrial research.

Our fluid mixing research consortium (FMP) is funded and steered by its industrial members, including market leaders from a broad range of industries, such as Dow Chemicals, Azko Nobel, GlaxoSmithKline, Procter & Gamble, and PepsiCo.

The work undertaken within this research programme is at the leading-edge of industry. By tapping into this knowledge, our consultants can help get the best results for you and your team. We also provide a range of courses, either delivered on your premises, or ours, that can will:

- Give you the design rules and methods to do the scale-up
- Help you select the best equipment for the job
- Provide the tools to identify what's limiting your current process and provide methods to improve it

Not sure where we can help? Perhaps an initial chat would be the ideal first step:

Call us on +44 (0) 1234 750 422 or

email marketing@bhrgroup.com

