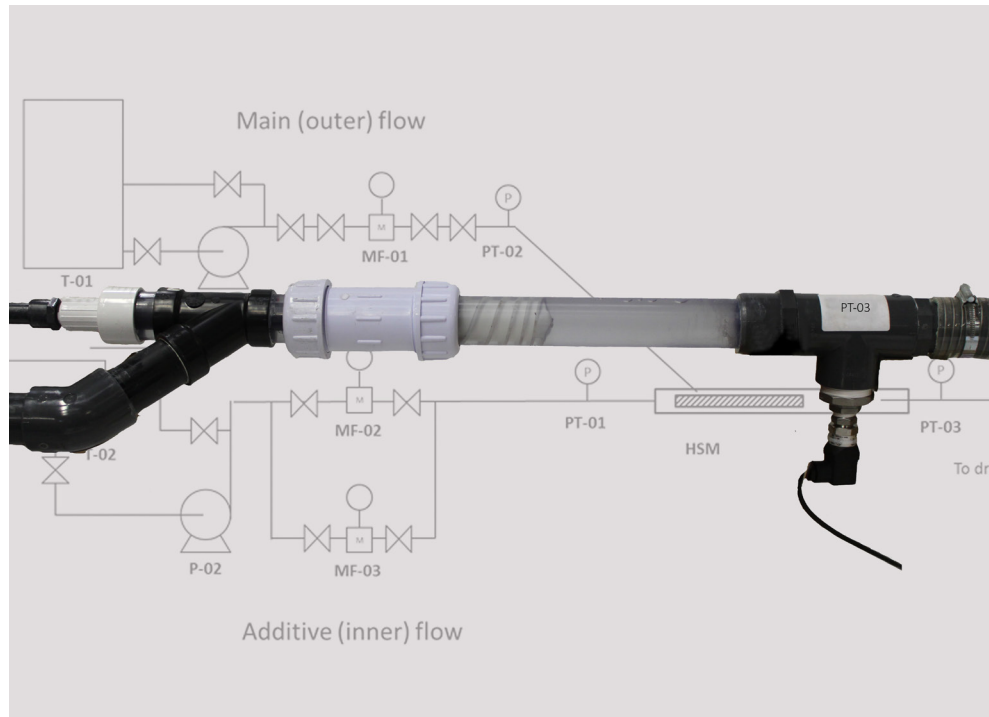
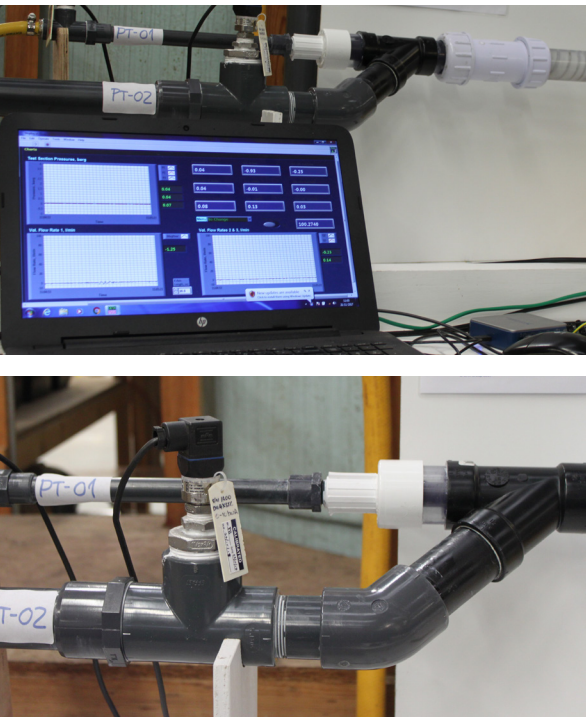


Process Modelling

CETAMAX VENTURES LTD.



Cetamax has developed several vortex reactor designs in recent years, including a novel in-line High Shear Mixer (HSM), which forms part of a more complex prototype for dispersal of nano-sized structures.

With its 30+ year's expertise on in-line mixers through consultancy and R&D consortia (Fluid Mixing Process), BHR collaborated closely with Cetamax to assess the performance of the Cetamax HSM and compare this to other in-line mixers currently available on the market, with the aim of identifying ways to further improve this novel design and of exploring suitable applications / market sectors.

As a new and innovative design, Cetamax were interested in not only testing the initial design of the HSM, but also in knowing whether it could be used in other sectors beyond those they had already identified. BHR performed testing and analysis of the HSM, specifically to:

- Qualitatively (using visualisation) and quantitatively (using pressure drop tests) assess the mixing performance of the HSM.
- Compare the HSM with other in-line static mixers commercially available.
- Discuss the novelty of the HSM, possible improvements to the design and suitable applications / market sectors.

“BHR is one of the most cooperative and communicative groups I’ve worked with. All staff I have dealt with, have responded to communications in a timely and thorough manner which we appreciate. We also admire and are grateful for BHR Group’s willingness to deal with smaller companies like Cetamax where synergies and cross-pollination of ideas and needs between your consortia members and outside entities like us are made possible.”

Don Kress
PROJECT DIRECTOR

The HSM was proved to be a very effective mixer, albeit with a greater pressure drop than standard in line mixers in its original design. The BHR team outlined design improvements and suitable application sectors for future commercialization.