

Uplatnění hydrocyklonů v chemickém a potravinářském průmyslu

14:00 on Friday 11th November 2011, room B02, ICT, Prague

The use of hydrocyclones in the chemical and food industry

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- **Summary**

Hydrocyclones are now well established in industry as effective and economical means of separating particles from liquids, for the purpose of liquid clarification, slurry thickening, particle classification or solids washing. As the separation is by centrifugal forces, the best advantage is for heavy particles which are found, for example, in mineral processing where hydrocyclones were actually first established in the early 20th century. Since then hydrocyclones have been steadily spreading to other industries where particles are finer and/or less dense and where hydrocyclone application is more challenging for that reason.

Particles processed in the chemical industry are usually fine because of the need for large specific surface. Also, the suspending fluid may be quite viscous or sometimes even non-Newtonian. In the food industry there is an additional challenge of low particle densities. This requires some specific changes in the design and application hydrocyclones in these industries. The changes include geometry modifications, smaller diameters of the individual units (used in parallel for larger throughputs), higher operating pressure drops and multi-stage arrangements with or without recycles. Specific examples will be given in each category.

The lecture will be given in Czech but the supporting graphics will be in English. Because of the time constraint the content will be necessarily of introductory nature but any specific questions would be welcome afterwards. The talk will be aimed at practitioners such as chemists, process engineers or plant operators, as well as students and academics.