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## **AQUAREX Blown Film Line Turns Extrusion Upside-down**

### **The new upside-down Water Quench Line Opens the Door to New Ideas**

*With the AQUAREX blown film line, machine manufacturer Windmüller & Hölscher expands its blown film product range to include a line that blows film downwards and uses water instead of air to quench the bubble. W&H takes technology, known for its use with smaller, special lines, and tailors it to meet the needs of the flexible packaging industry. The AQUAREX opens up opportunities for blown film manufacturers to create a new spectrum of packaging products reaching beyond medical applications.*

Quenching the bubble with water rather than air decreases the cooling time by a factor of 30. The sudden freezing of the melt minimizes the build up of crystallites in the plastic, thereby creating an amorphous structure with excellent optical properties. At the same time, the effect of biaxial stretching, which can only be achieved with the blown film process, is maintained. The results are films with completely new properties that can be used for a variety of applications.



During the K2010, W&H hosted an in-house EXPO at its company headquarters in Lengerich, at which the AQUAREX was shown running a 3-layer, 200 µm, high-clarity PP-film for the production of infusion bags (IV-bags). The “crystal clear” film looks more like window glass than film, in which some degree of opacity would be expected. This clarity, achieved from the shock cooling of the melt, is especially important for the production of infusion bags.

Aside from the outstanding optical properties, the water quenching process also improves mechanical properties, such as puncture resistance and dart-drop-value. The highly amorphous micro structure significantly improves sealability.

Traditionally, infusion bags have been made out of PVC. Many product developers expect PP-film to replace the publicly disputed PVC, which is a naturally hard, brittle form of plastic. Only after mixing with phthalates, PVC becomes soft and pliable. Such softeners used with PVC are meeting with criticism. According to the Environmental Protection Agency, PVC is associated with health risks, and has consequently been eliminated from the production of a number of products. Some countries, including China, have banned PVC infusion bags altogether. In such cases, PP-films produced on an AQUAREX are a good substitute.

Infusion bags are just one of a number of interesting products within the flexible packaging industry for which films with exceptional optical and mechanical properties are suited. With the AQUAREX, amorphous, water-quenched films are no longer a niche product for special applications, rather they enhance product presentation, which in turn can impact sales.



Windmüller & Hölscher is an international leader in the design, manufacture and distribution of machinery for the flexible packaging industry and is based in Lengerich, Germany. The product range includes flexographic and gravure printing presses, blown and cast film extrusion systems, multiwall equipment, plastic sack and bag making machines as well as form-fill-seal machinery.

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<http://www.wuh-group.com/presse>

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**PR 1284**

The AQUAREX blown film line turns blown film extrusion upside-down by blowing film downward and quenching it with water instead of air.



**PR 1296**

Films for infusion bags need to be highly transparent and crystal clear. The AQUAREX from W&H produces high-gloss PP-films as an excellent substitute for PVC.