

Sensors in drinking water treatment plants

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Natural organic matter that is present at elevated concentrations in many Swedish surface waters may pose a problem during the production of drinking water. Luckily most organic matter may be detected by measuring the different types of color of water that capture the optical properties. This permits reacting and adapting to fast changes in natural organic matter, avoiding many of the challenges that this alteration may cause. In this project we use different types of instruments, mostly optical sensors, to improve the treatment of drinking water (Figure 1). The project is financed by the Swedish water and waste water association and a cooperation of eight different utilities in Sweden (Figure 2). As ongoing and planned projects we can name the comparison of different instruments, the establishment of proper measurement and evaluation procedures and the measurement of fast changes in concentration of natural organic matter in the raw water. We will also try to relate the occurrence of changes in natural organic matter to the operation conditions of membranes for water treatment in some of the different utilities. So far we have successfully compared and evaluated two different sensors at the site of artificial infiltration in Uppsala. We hope that our knowledge will allow to improve the drift of that process.

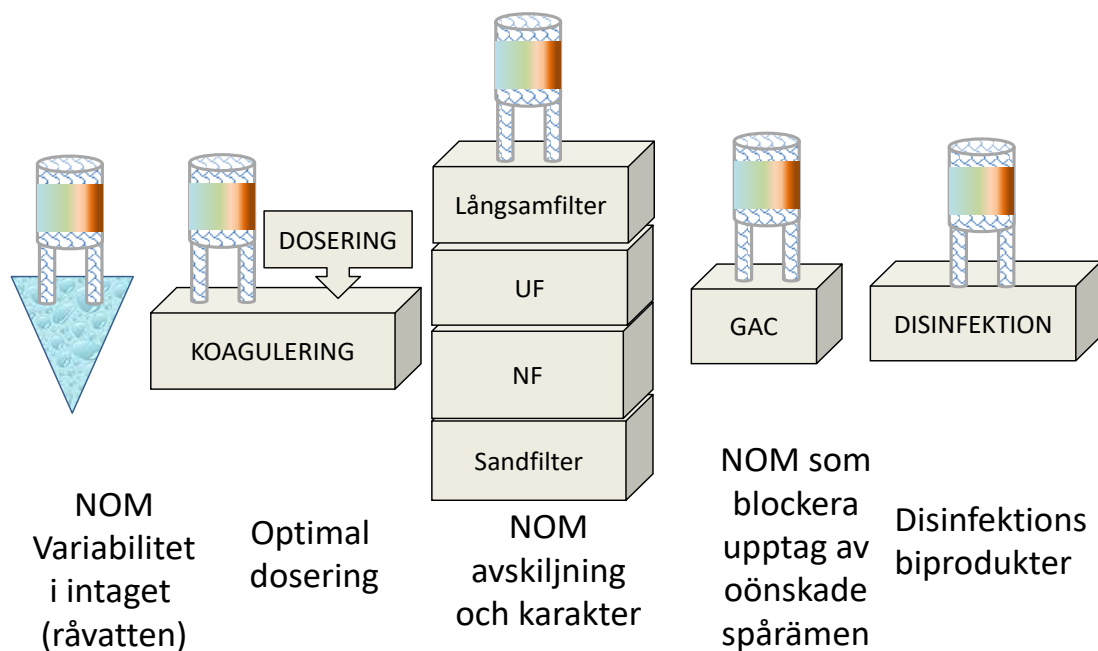


Figure 1 Outline of the possible placement of optical sensors in the drinking water treatment process.

Forskning och innovation för säkert dricksvatten

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WTP involved			
Name	Abb.	WTP City	
<i>Fyrisån</i>	<i>FY</i>	<i>Uppsala</i>	
<i>Gavleån</i>	<i>GA</i>	<i>Gävle</i>	
<i>Görvaln</i>	<i>GÖ</i>	<i>Stockholm</i>	
<i>Kvarnagården</i>	<i>KV</i>	<i>Varberg</i>	
<i>Lackarebäck</i>	<i>LA</i>	<i>Göteborg</i>	
<i>Råberga</i>	<i>RÅ</i>	<i>Linköping</i>	
<i>Ringsjöverket</i>	<i>RI</i>	<i>Malmö</i>	
<i>Sjöbo</i>	<i>SJ</i>	<i>Borås</i>	

Figure 2 List of the water treatment plants involved in the GenomLjusning project.