

Variable speed decant arm improves waste-water plant efficiency

Picture shows a waste-water treatment plant Sequencing Batch Reactor (SBR) where waste-water is treated and allowed to settle. The inset image is a close-up of the SIPOS 5 actuator with drive shaft.



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Design Challenge

Variable speed lowering / lifting required

Water treatment works using SBRs (Sequencing Batch Reactors) draw off treated water from above the settled solids using a decant arm. This structure must be lowered into the water slowly (typically over around one hour at a constant speed) without disturbing the settled solids at the bottom of the tank. However, to ensure fast refilling, the arm needs to be raised rapidly to a preset parked position above the water prior to the next decant cycle.

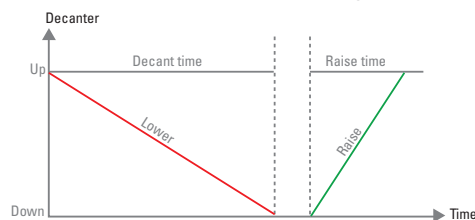
Solution

SIPOS 5 actuator

Using a SIPOS 5 actuator to operate the decant arm allows different lowering and lifting speeds to be set (up to seven different speeds can be selected). Alternatively, the raising / lowering times can be determined in conjunction with a level sensor. In contrast to simple gear motors or screw jack mechanisms, SIPOS actuation technology also provides: accurate position feedback of the decant arm during the decant cycle, torque force monitoring and the option to use a fieldbus interface. A weatherproof enclosure ensures long term reliable operation.

Technical Data

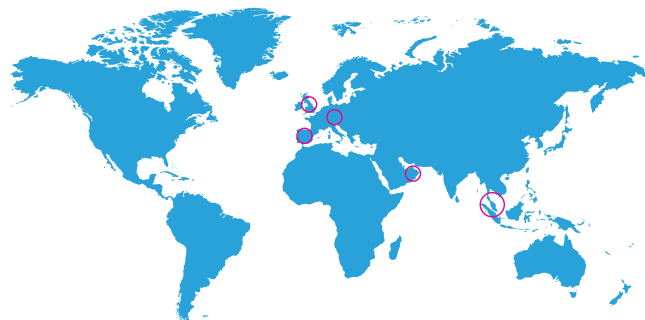
The diagram illustrates how different lift and lower speeds can be selected for the decant arm operation.



Location

Various sites across the world

See reference sites box



Reference Sites

Austria

- Sollenau

Hungary

- Újkígyós

Kuala Lumpur

- Sunway

Malaysia

- Melaka
- Perak
- Shah Alam, Selangor

Oman

- Al Reem
- Aseeb

Romania

- Pendeleva Craiova

Spain

- Covalada

UK

- Aviemore
- Charmouth
- Derby
- Queensferry
- Stirling
- Tayport

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