



Save Energy[®]

BROCHURE

EN 6.05 ENERGY BROCHURE 1401



SIMPLE AND CLEAR CONCEPT

MJK Connect® is a multi-purpose pump controller and SCADA device

Energy efficiency optimization is an integrated function in the Connect® as it controls pumps for either wastewater collection or clean water distribution and supply systems.

With the increased focus on energy in conjunction with rising energy prices, MJK Connect® is now the right choice for controlling pumps in sewage and water treatment facilities.

Connect® is easy to install, plus simple and quick to configure. It has multiple features for energy optimization in order to obtain the best results.

Another advantage of using the MJK Connect® solution is it neither requires special software nor special adjustment during the start up of the systems.



SEWAGE

Sewage

With Connect®, set points can remotely be adjusted to control the starting and stopping of pumps via remote communication between control room computers and Connect®. This can automatically reduce the differential between the start and stop set points during periods of little flow to reduce sewage odors and settling. Conversely Connect® can increase the set point differentials during peak flow periods, such as during rain.

During heavy rain the pumps can be forced to be stopped and the pipe system can be

used as a reservoir, to avoid downstream storm overflow and back pumping.

Frequency Control of Pumps

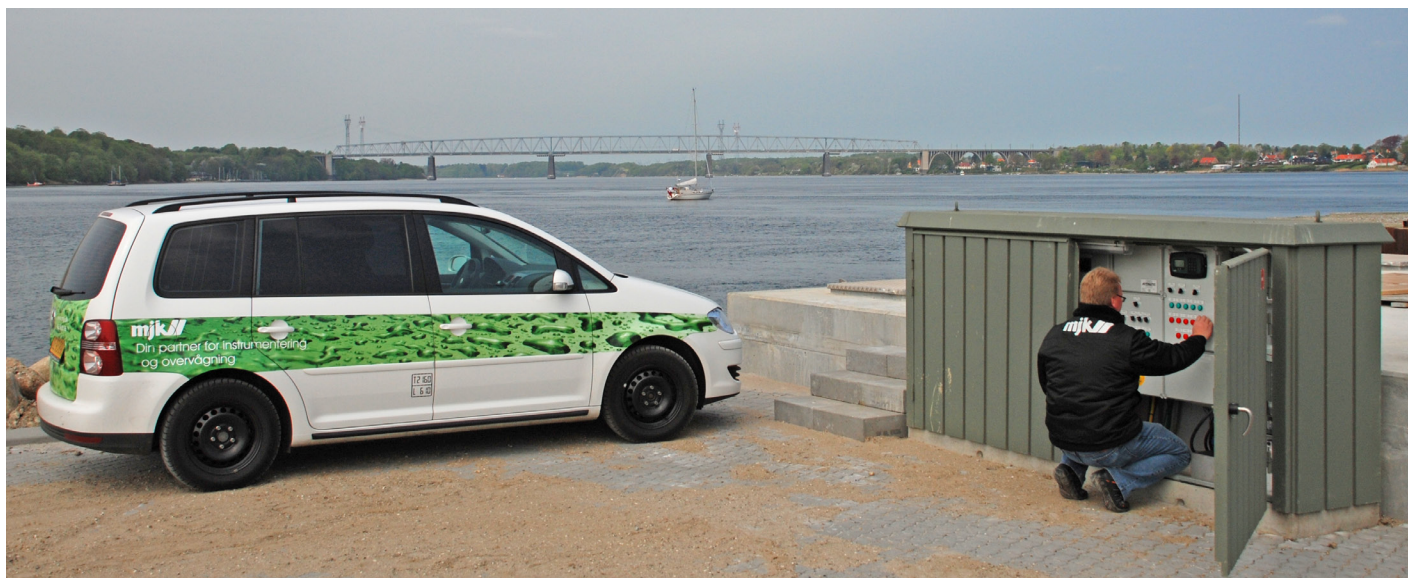
Connect® can also be used to control the speed of pumps connected to VFD's. The maximum energy savings is achieved when installing VFD's to control the speed of the pumps and having Connect® control these pumps to run at the speed which is most economical, while taking into account that the wastewater must be pumped away.

With Connect® the installation is very

simple. The VFD and MagFlux flow meters are simply connected by a 2-wire Modbus-signal cable to Connect®. These inputs are coordinated for the best results.

Stormflow Basin

Connect® can also execute a combined time and volume management of back pumping on the pipe system, then pumps are controlled to pump during periods when the system is least congested.



WATER SUPPLY

Optimizing raw water pumping

Many water utilities can achieve significant energy savings by regulating the cycles of the raw water pumps. Connect® controls the number of raw water pumps in operation along with their speed thus giving the most cost-efficient operation.

Booster Pumps

The control of the pumps is optimized by Connect® by running an efficient sequence that factors in an optimal number of pumps in operation and their most efficient speed needed to achieve required flows and pressures.

Filling of a Water Tower

Connect® can prioritize pumping at night (if consumption also allows it), to minimize using the higher priced electricity during the day.



SAMPLE APPLICATION

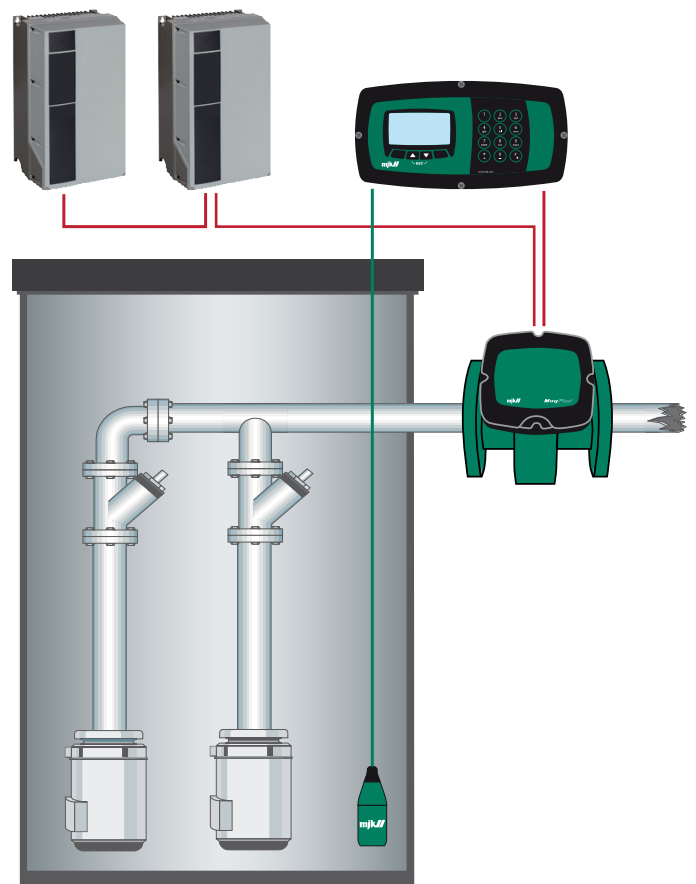


An Energy Cost Savings of Approximately 35%

Kalundborg Municipality in Denmark has a pumping station with 2 pcs. 5.5 KW pumps installed. Now the station is controlled by a Connect® with energy optimizing functionality.

Since the Connect® installation was finished a number of tests have been done. It appears that at this pumping station the municipality is saving approx. 35% of the energy consumption seen before the Connect was installed.

During operation the display in the Connect® indicates level and flow and which pumps are in operation.



Connect®	
Supply	115 or 230 V AC 50 / 60Hz, ± 10% or 12 V DC
I/O module	16-8-6-1 Inputs: 16 pcs. DI, 10-30 V DC, 6 pcs AI galvanically separated 4-20 mA Outputs: 8 pcs. DO, electronic relays, 1 AO galvanically separated 4-20 mA
Extension max.	Max. 4 Connect® controllers and max. 4 instruments per Connect® Controller
Remote Communications	PSTN, GSM Dual band or GPRS Dual band modem with Modbus® RTU or COMLI® protokol
Local communication	PSTN, GSM or GPRS Dual Band Dual band modem with Modbus® RTU or COMLI® protokol
Clock	Real-time clock
Memory	32 MB, 10 X 36,000 logging
Cabinet	Glass Reinforced polycarbonate, IP 67 enclosure
CE	EN 61000-6-4:2001, EN 61000-6-2:2001

MagFlux®	
Sizes	From Ø 3 mm to Ø 3000 mm with EN or ANSI flanges
Sensor Mounting	Flanged, or Wafer (compressed between existing pie flanges)
Sensor Housing Materials	Painted carbon steel or stainless steel
Sensor Lining	Hard Rubber, Soft Rubber or PTFE
Electrodes	AISI 316L Stainless Steel, Hasteloy, titanium or platinum
Accuracy	Better than ± 0.25% of measured value (0.2 to 10 m / sec)
Temperature, media	From 20 to 150 °C, depending on type
Temperature environments	From -20 to 60 °C (converter mounted on sensor)
Outputs	4-20 mA, galvanically isolated (max. 800Ω) and 2 relays
Input	Display 2 MB Flash memory
Internal data logger	Display 160000 logging with date, time, value and daily totals
Communications	Modbus® to display and other MagFlux® or Connect networks, Bluetooth or USB to PC or Modbus®, and PROFIBUS® PA to PLC
Power supply	230 or 115 V AC, 24 V AC or 10-30 V DC, consumption max. 10 W
Enclosure	IP 67 (IP 68 with Gel potted sensor and remote mounted converter)



MJK Automation ApS
 Byageren 7
 DK-2850 Nærum
 Denmark
 Tel +45 45 56 06 56
 Fax +45 45 56 06 46
www.mjk.com



Connect, MµConnect, Chatter, MagFlux, OxiS, pHix compact, Shuttle and SuSix
 are registered trademarks of MJK Automation ApS.
 © 2014 Xylem, Inc. BROCHURE Energy 01 2014