

## Osorno Automation Package

The Osorno Group of companies offers modular water and wastewater treatment plants that are fully automated and remotely monitored. The wastewater treatment systems are called BioCompact®. The BioCompact® STPs are sized for the treatment of domestic sewage in the range from 4 m<sup>3</sup> to 150 m<sup>3</sup> of sewage per day. They run on an Intelligent activated sludge process with biological nutrients removal.

BioCompact® STPs come with a fully integrated automation package for Smart Intelligent control of the microbial process and its remote monitoring. The automation package consists of the hardware and software components for process automation and visualisation.

The ControLogic™ Intelligent control program is implemented in the WAGO 750 system that supports IEC protocols 60870/61850 and is therefore ideal for cross-process automation and the networking of telemetry applications. When tied into Osorno's SCADA systems (OSCADA), the tasks of remote access and visualisation rest with OSCADA, instead of the web server built into the 750 series. The OSCADA software is installed on the Osorno touch screen PC. This fully integrated system called the Osorno Automation package has the following features:

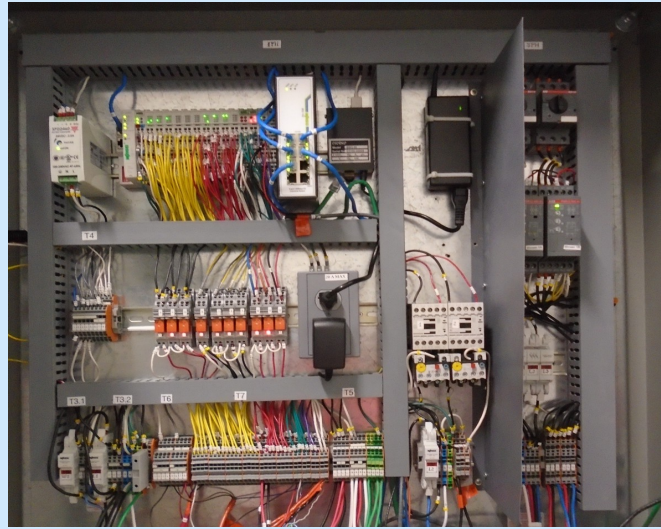


- ▶ All of the system's electronic components carry the Intelligent control feature (including system sensors) and communicate via Ethernet.
- ▶ Compact design of WAGO automation and electronic components supports the efficient and space saving design of the control cabinet.
- ▶ The WAGO automation modules are exposed only to 24VDC control voltage, and are thus completely isolated from the high voltage of field equipment by an array of coupling relays, for increased operational reliability and safety.
- ▶ For the OSCADA software package, a "hardened" Debian GNU/Linux operating system is used for its inherent high security and Process View Browser, a well-established Open Source process visualisation system.
- ▶ Osorno Automation package provides remote access for real-time monitoring and control via Internet from remote locations. The remote access is done via VPN connection that applies AES-256 standard (256-bit encryption).
- ▶ Remote access to the plant is shielded by an Osorno SecureWall™ gateway, which does not allow access for non-registered devices. Communication is allowed only with equipment that is positively identified by its MAC address and its electronic key.
- ▶ The Osorno SecureWall™ gateway includes AttackAnalyzer software that allows the user to trace the location of the attacking computer.

# Automation Package Overview

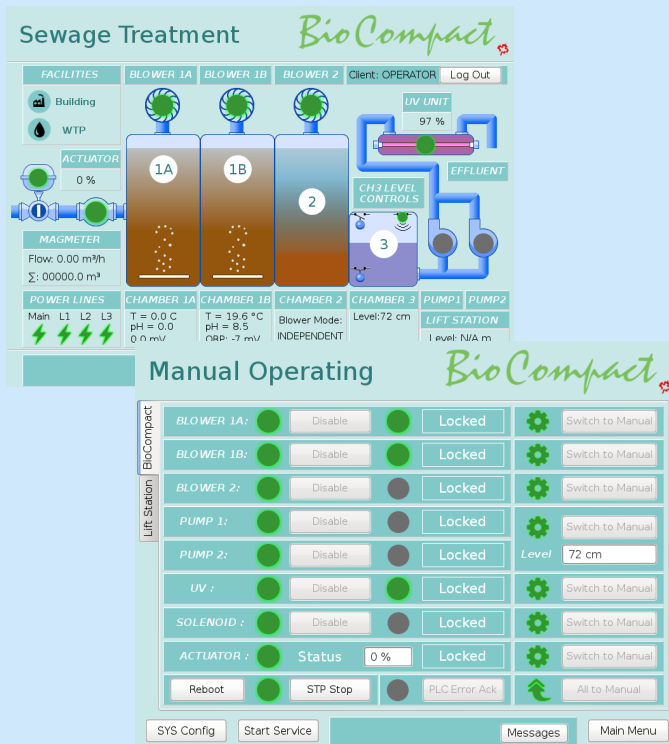
## Customer Needs

- ▶ The Osorno automation package with Smart Intelligent control can be adapted to almost any existing wastewater treatment plant.
- ▶ The visualisation part of the Osorno automation package is not limited by the availability of objects in the source library, because it is based on the “Open Source” philosophy. The design of the HMI can be unique for each application.
- ▶ The big advantage of the Osorno automation package is its capability to perform both remote monitoring and control in real time. The Process View Browser is



especially designed for remote communication and its performance depends only on the Internet speed. It allows for the remote viewer to see the same picture that is observed by a local viewer, with a latency of just a few seconds.

- ▶ The Osorno automation package supports reliable alarm delivery, both locally and remotely, via e-mail or SMS. The list of alarms can be tailored per customer requirements and can include building alarms.



## Customer Benefits

- ▶ The Osorno automation package consists only of hardware components that can be programmed, following the “Open Source” philosophy, to avoid vendor lock-in.
- ▶ The Osorno automation package is a very economical solution compared to the other automation and visualisation packages available on the market.
- ▶ Once designed, the Osorno automation package does not carry any cost associated with software upgrades or license fee.
- ▶ The OSCADA in the automation package has cross-platform capability and acts as a server, so that users can access the system either locally or remotely, independent of the operation system within the remote computer.

**OSORNO**

Osorno Enterprises Inc.  
 976 Elgin Ave.  
 Winnipeg, MB R3E 1B4  
 Phone: +1 (204) 488-1538 Fax: +1 (204) 488-1566