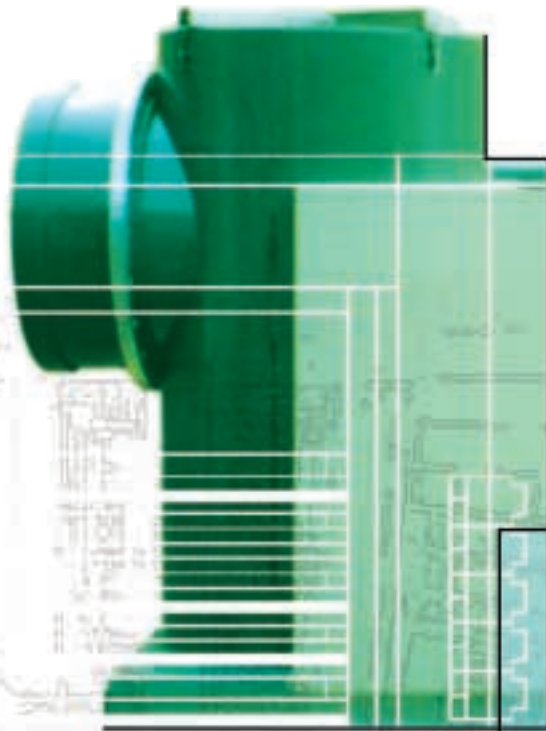


TERMINATOR™



UVTA Terminator
Advanced ultraviolet
technology for
treated wastewater



UVTA leaders in ultraviolet disinfection systems



Ultraviolet Technology
of Australasia

Advanced wastewater disinfection system - When AFP⁸⁴⁰ (Teflon TM Dupont) tubing and ultraviolet light are brought together in one system then a very efficient, simple but extremely effective disinfection unit is the result.

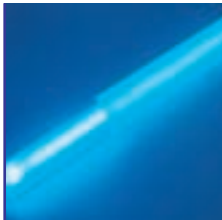


Photo shows UV light blocked on top end of the sleeve. This is caused by positive ions adhering and fouling the quartz sleeve. This fouling can only be removed by scrapers - and chemical agents.

The UVTA UV units can be located insitu in a pipeline or in a dry channel or on a concrete pad.

Insitu connections serve a dual purpose:

- UVTA UV units can be connected to flanged pipes by means of flanged connections conforming to standard pipe specifications.
- The connections are also designed to assist in a plug flow condition through the UV system, thus enhancing the disinfection efficiency.
- The effluent is passed through the AFP tubing connected to tube plates at each end.

UVTA Terminator technology is designed using a unique Advanced Fluoropolymer (AFP⁸⁴⁰) tube configuration which provides non-laminar internal hydraulic radial flow. No fragile quartz sleeves are used in the unit. The effluent flows through the inside of parallel lengths of robust AFP tubing. The mercury vapour (ultraviolet) lamps are located on the outside of the AFP tubing. The tubing is a non-breakable, fouling-resistant material and is Germicidal UV transparent which provides uniform and optimum UV dosages, with lower maintenance requirements. The unique design specifications of the Terminator unit allows for optimal UV light (at 254NM wavelength) penetration through to the water/wastewater to be treated.

UVTA has the ideal solution for safe and effective wastewater treatment. Many industries and municipalities worldwide have successfully implemented UVTA AFP⁸⁴⁰ UV disinfection systems. The Terminator design is a more reliable and cost-effective alternative to traditional chlorination-dechlorination processes, or high-maintenance quartz sleeve UV systems. Quartz sleeves are fragile, expensive and subject to fouling and solarisation. The UV process eliminates the need for chemicals and their attendant hazards such as transportation, handling and storage. Alternative disinfection treatments such as chlorination, can produce toxic organochlorines which are poisonous to the environment and pose considerable occupational health and safety concerns.

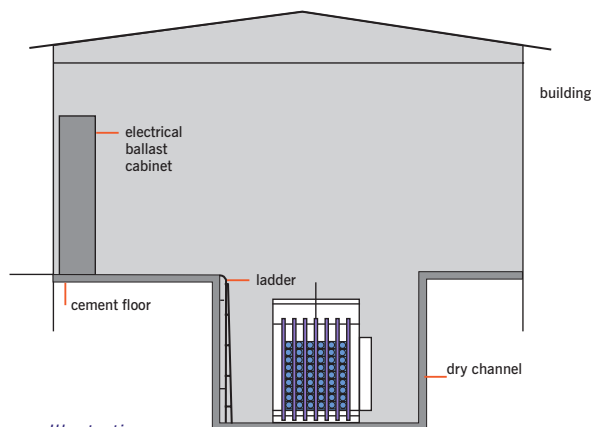
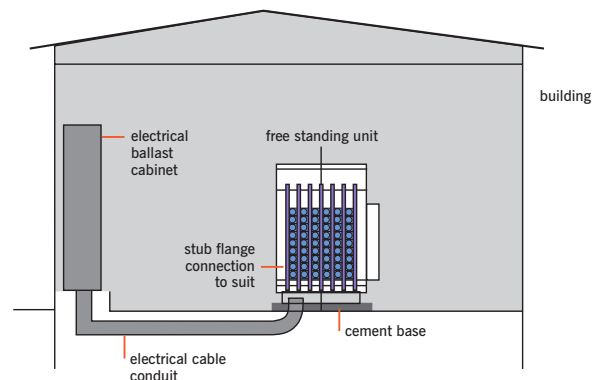


Illustration showing alternative installation methods of UVTA Terminator unit

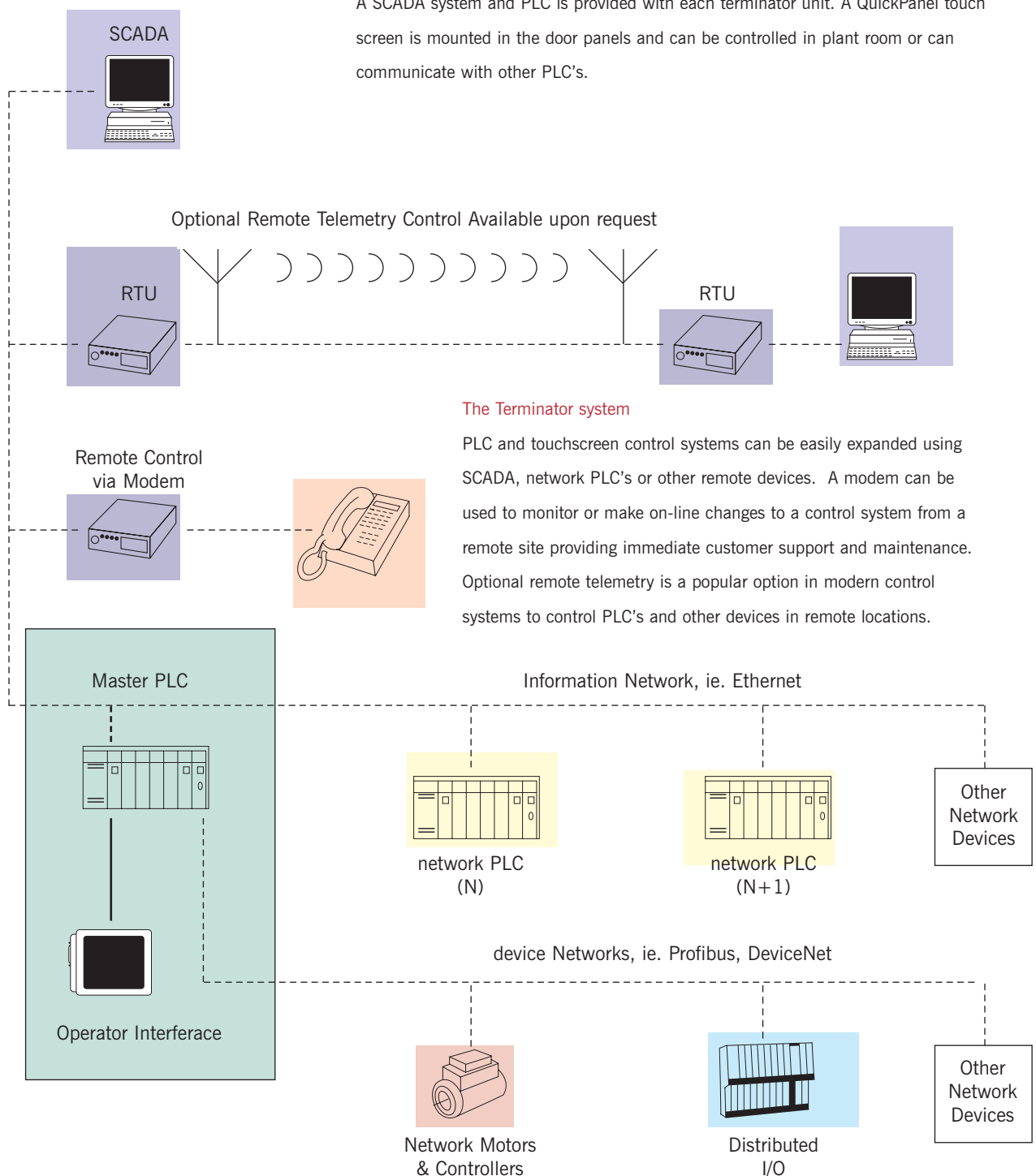
The Terminator water disinfection units are recognised for their ease of operation, reliability and low maintenance.



The Terminator system - The UV lamps are located in aluminium lamp racks attached to the UV chamber inside a powdered coated aluminium enclosure. All connecting wires to ballast cabinets, are isolated and completely protected.

The lamps are arranged in vertical rows and attached to a common rack. With the disconnection of a single bayonet plug, an operator can remove each rack from above, through access doors on top of each disinfection unit.

Power Distribution - Power is provided to the UV lamps by means of electronic ballasts. These are supplied mounted in receptacle cabinets. Electronic ballasts are enclosed within powdered-coated steel cabinets, eliminating the need for separate ballast panels and greatly simplifying the installation and maintenance of the system. A SCADA system and PLC is provided with each terminator unit. A QuickPanel touch screen is mounted in the door panels and can be controlled in plant room or can communicate with other PLC's.



The Terminator system

PLC and touchscreen control systems can be easily expanded using SCADA, network PLC's or other remote devices. A modem can be used to monitor or make on-line changes to a control system from a remote site providing immediate customer support and maintenance. Optional remote telemetry is a popular option in modern control systems to control PLC's and other devices in remote locations.

The Terminator UV AFP system can be designed and installed to suit a wide variety of flow rates for a range of disinfection applications.

The size and number of UV lamps required in a particular application is determined by the flow rate, water/wastewater quality and disinfection requirements.

The sizing of a system for a particular application is based on:

- maximum and minimum flow rates
- the minimum UV transmittance of fluid at 254 nanometre wavelength
- the permit level for S/S, BOD
- type of biological treatment used
- the level of disinfection required.

The Advantages of the Terminator

- AFP tubes cause minimal UV transmittance loss. AFP resists both biological and chemical fouling and does not deteriorate on continued UV exposure.
- Maximum contact time between micro-organisms and UV light is assured by incorporation of turbulators in the AFP pipes. These ensure complete irradiation of system influent.
- Guaranteed no short circuiting.
- Optimum performance of UV lamp as skin temperature is thermostatically controlled.
- Easy maintenance - lamp replacement is straightforward (no fragile quartz sleeves) and AFP can be easily cleaned with a high pressure water cleaning system. Larger, 'in channel' UVTA effluent disinfection systems can offer, as an option, the UVTA fully automatic AUTOKLYN™ cleaning system.

The optional Systems Monitor provides comprehensive monitoring capabilities for all UVTA models. The system offers the following features:

- a UV intensity sensor monitor within the AFP tubing
- elapsed time display provides continuous readout of actual hours of operation
- UV intensity and elapsed time are digitally displayed in the panel of the ballast cabinet, or optional wall mounted panel for small units
- a dry contact is provided for remote, low UV intensity alarm
- a 4-20 mA analog output signal is available for remote indication of UV intensity.

The Terminator series units offer the essential features of large-scale UV units in a highly compact and easy to operate system.

For in-situ pipeline locations that have hydraulic operating pressure up to 313 kPa, an individual unit is capable of treating up to 30 million litres per day (350 L/s).

Higher flow rates or lower quality effluent may be treated with several units placed in series or parallel or by the unique "TERMINATOR"™ "In-Channel" design that will disinfect peak flow rates up to 1,000 L/s per channel



UVTA Systems specifically planned and custom built to meet our customer requirements



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ULTRAVIOLET TECHNOLOGY OF AUSTRALASIA PTY LTD - WATER DISINFECTION AND TREATMENT EQUIPMENT



Water Industry Alliance



ISO/AS 9002 Lic 2792
 Standards Australia