

ELSTER KENT/TELBIT Pre-Paid Metering System

A reliable, effective income generating system for water sales
Domestic Pre-Paid Metering for individual connections



Domestic Water Dispenser (DWD)

The Domestic Water Dispenser is designed for individual households, to control the dispensing of pre-paid quantities of water. The DWD is installed outside using the pre-paid system, powered by a small Lithium battery. It consists of three main components, the Electronic Module, Latching Valve and Water Meter with pulse output.

A multi-tier step tariff system, monitors the monthly consumption of the consumer, and charges him using the appropriate tariff. A monthly Consumption Profile is generated, which in turn is loaded back onto the Token. This profile is uploaded to the Management System the next time the Consumer purchases credit.

Programmable to accommodate:

- Multi-tier programmable stepped tariff levels.
- Credit Low Early Warning.
- Auto-Debit to deduct a predetermined amount of credit weekly or monthly, as a basic charge for sewerage, refuse removal, etc.

- Daily Limit to control the quantity of water dispensed per day.
- Daily Free Credit allowance.
- Arrears Payment facility to allow customers to pay off their arrears at the Vending Station. Arrear amount paid can be a fixed monthly charge or percentage per transaction.

Features:

- Consumer lock with own token.
- Automatic Dispenser configuration.
- Monthly Consumer consumption profile.
- Secure Encrypted Tokens.
- Electronic Totalizer with 0,5% resolution.
- LCD Display indicates credit remaining.
- Leak Detection.
- Tamper Detection.
- Up to 7 years battery life.
- Water resistant enclosure (IP 67).
- Emergency water.

Security Token and Tamper Switches



- Tampering results in switch being activated and water being shut off
- Token options for levels of authorization
- Password protection
- Full financial audit on all transactions
- Tokens cannot be duplicated or reloaded.



Token Benefits

- Read/write token with non-volatile memory
- Encrypted token with cycle counter eliminates fraud
- Ensures transfer of up to date info of usage
- Data retention over 10 years
- Resistant to extreme environmental conditions – shock and temperature (-20° to +70° C)
- Information stored includes:
 - Account no. – Credit R – Consumption profile
 - Leak and tamper icons – Last meter reading
 - Programmed information.

Token Types



Consumer Token



Maintenance Token



Management Token

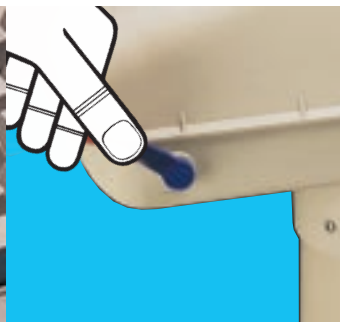
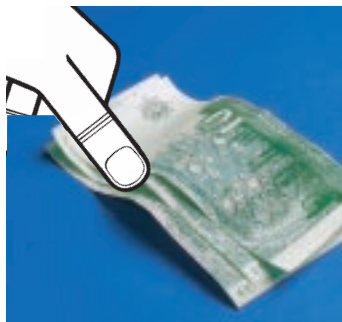


Engineering Token



Vendor Token

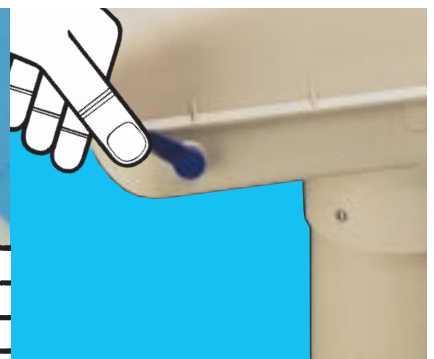
How the System Works • Consumer purchase of water credit • Token transfers credit to DWD



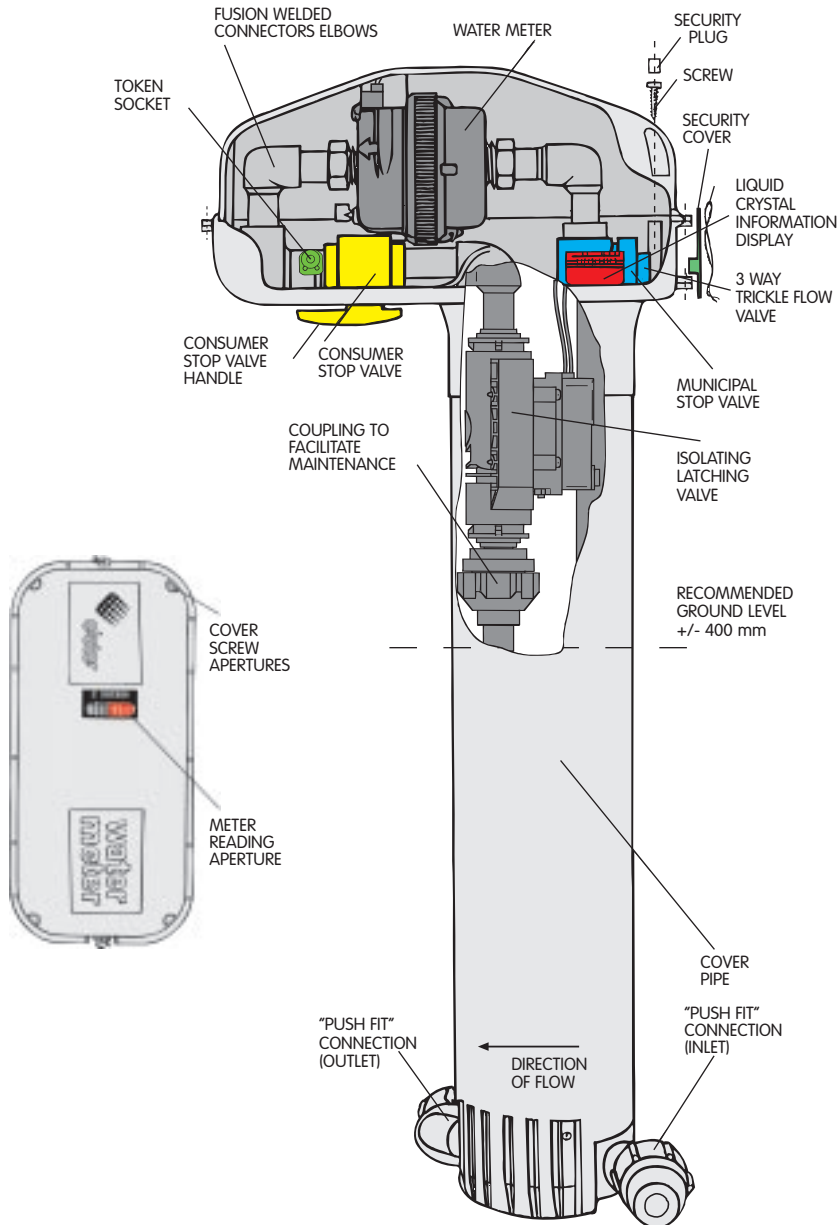
Hand Held Point of Sale Vending

Benefits:

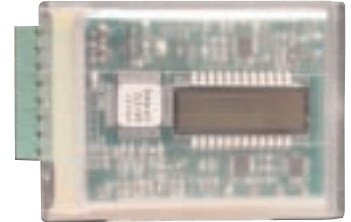
- Local Vending
- Local Issue of Tokens



The Above-Ground Meterbox



The Pre-Paid Meter Display



- Display indicates:
- Credit remaining
 - Leak detection
 - Tamper detection
 - Meter reading
 - Free water and amount remaining
 - Indication of tariff scale and R per m³.



Information transferred via token to management system

Hardware System Components

Tamper switch



Isolating latching valve

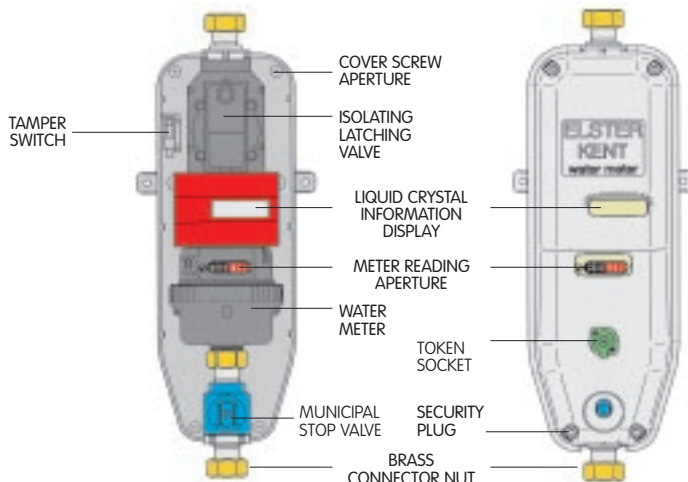


Pulse output meter



Electronic module

The Wall Mounted Meterbox



Hardware Benefits

- Quality proven components
- Ease of installation (no fittings needed)
- Pulse output water meter approved to Class C Approval No. SA842
- Electronics water resistant to IP 67
- Electronic totaliser with 0.5 ϵ resolution
- Up to 7 years battery life

Cashflow Management System

- Multiple Villages on one central Management System
 - Windows 95, 98, 2000 or NT
 - Supports Multiple Workstations and Users
 - Bulk Credit Allocations per vending System
 - Village Database
 - Multi-tier programmable stepped tariffs
 - Village name and information
 - Consumer Database
 - Registering of new Consumers
 - Personal information
 - Meter information
 - Arrears and Repayments
 - Blocking of Lost or Stolen Tokens
 - Vendors Database
 - Generates Consumer Sales
 - Credit Sales
 - Arrears Payments
 - Purchasing of Tokens
 - Connection Fee payments
 - Conventional Payments
 - Flat Rate Payments
 - Cash and Credit Refunds
 - All reports are user customizable by:
 - Specify starting and ending date
 - Selection Criteria – Transaction type, Meter types, Account no.
 - Report Filters to locate specific Consumers
 - Specify the Order of the report
 - Administrative features
 - Capturing of Bulk Meter totalizers
 - Data Backup & restore
 - View Token displays all information stored on Tokens
 - Changing of Password
 - Access Control
 - Access Token used to unlock the System
 - Logging On/Off of Users prompting for passwords
 - Privilege Tables to restrict access to certain functions
 - All users actions are logged in the Activity Log with User ID.
-

Management Information

- Sales analysis (monthly and daily)
 - Monthly consumer consumption profile
 - Exception reporting
 - Maintenance log
-

Quality Control

The complete system is manufactured according to ISO 9002 quality control specifications assuring product quality.

System Requirements

- Operating system
 - Hardware:
 - PC with Pentium or higher processor
 - 80 GB hard-disc drive
 - Microsoft mouse or compatible pointing device
 - 2 open serial or USB ports
 - System Software:
 - Windows 95, 98, 2000 or NT
 - Other requirements
 - Communication and negotiation of all users and training of staff.
 - 512 MB DDR2 memory
 - VGA or higher resolution monitor
 - Printer & keyboard
 - Stiffy drive/CD writer
-

Warranty

All goods are tested and inspected prior to despatch. In the event of defects resulting from faulty workmanship or materials, such goods will be replaced/repared at our discretion, free of charge at the factory, but no responsibility will be accepted for any direct or consequential damage. This warranty covers the malfunction of a correctly installed item due to a manufacturing fault, but does not cover wear and tear considered normal at the locality of installation. Meter warranty 3 years from date of manufacture. Electronics warranty 1 year from date of manufacture.

Approvals

Meterbox to contain a class C plastic bodied volumetric watermeter complete Trade Metrology to SANS 1529-9:2003.

Typical Specification

A domestic water dispenser to control the dispensing of prepaid quantities of water. Product to consist of a plastic bodied above ground meterbox allowing the LCD display to be positioned ± 400 mm above the ground. Meterbox to contain a class C plastic bodied volumetric watermeter complete with pulse output approved by S.A. Trade Metrology to SANS 1529-9:2003.

Electronic components to be water resistant to IP 67.

Security: Product must be fitted with a tamper switch which will ensure that no water is drawn when in tamper mode.

Display: Display must be able to indicate credit remaining in rand, consumption in m³, leak icon when consumer has a leak, tamper icon when DWD is in tamper mode.

Prepaid meter to be complete with push fit type inlet and outlet fittings, only on above ground meter box. All joints to be fusion welded.

* Specify pipe type and size.
