

# ELSTER KENT Non-Metallic Products

Meters, Meterboxes & Accessories made from Engineering Plastics

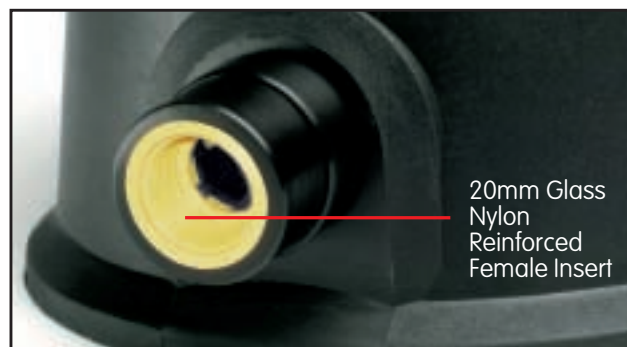
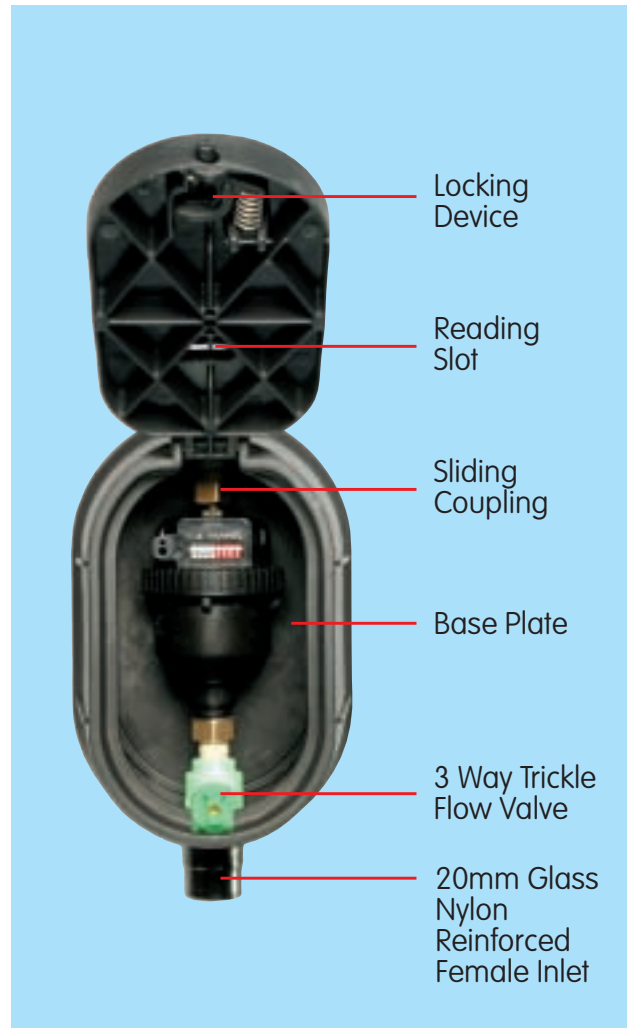


## Accuracy and long-life stem from engineering excellence

**The Elster Kent range of non-metallic products are made from tough, high quality, UV resistant engineering plastics.**

The range of meterboxes house 15, 20 and 25mm meters. For 15 domestic installations, there is a choice of the low cost RDP4 meterbox for 114mm long plastic meters. For plastic meters 165mm long, there is the standard meterbox. These meterboxes house a quality 3-way lockable plastic trickle flow ballcock except the B1100 meterbox has a 2-way lockable plastic ball valve. Class C meters are fitted in all sizes of meterboxes and there is an approved pulse output on all V110T KSMT variants including the B1100 meterbox with 25mm meter for upgrade to automatic meter reading (AMR).

Further features include a patented locking mechanism, requiring a special key to open the lid; unique coupling designed to slide back facilitating meter replacement; the meter/ballcock assembly is keyed where it passes through the meterbox to prevent it from rotating during installation; high quality shutoff ball valves without rising headparts which can cause leaks. The B1100 standard meterbox has a 19mm external 2-way municipal ballcock fitted in a valve box.



## The V110T KSM Volumetric Water Meter Range



# The V110T KSM Volumetric Water Meter



The V110T KSM meter is designed for the measurement of cold potable water and offer accurate, long maintenance-free life and is highly-resistant to tampering.

The range includes three different class C meters to suit maximum flow rates from 3.0m<sup>3</sup>/h to 7.0m<sup>3</sup>/h. The V110T KSM's are suitable for water temperatures up to 50°C and a maximum working pressure of 1600 kPa. Standard

counter registration is m<sup>3</sup> and litres. This meter has a blended UV stabilised polyacetal engineering plastic body.

It is a semi-positive rotary piston type wet dial water meter. It has a sealed wet dial counter and a 7mm thick lens complete with a non-return valve and pulse output facility.

## Compliance with standards

Every V110T KSM water meter is individually tested over its flow range before despatch. Performance figures for the KSM range meet the requirements of the following:

- Approved by SABS 1529-1:1994.
- ISO 4064-1.
- Approval number SA842

The meter has an approved pulse output and is also approved for both vertical and horizontal installations.

## Counter

The combined counter and gear unit is liquid filled and sealed, with a simple straight-reading presentation. The number rollers are totally immersed in a non-toxic liquid which acts as a lubricant. The sac attached to the counter casing acts as a balancing membrane and ensures the pressure of the liquid in the counter is the same as that of the water inside the meter. The counter is placed in a window inside the meter body for easy reading.

Black numerals on white denote cubic meters, white numerals on red denote litres.

## Tamperproof

The V110T KSM offers outstanding resistance to illegal tampering. Its unique conical body-half design means it cannot be dismantled while in service and the mechanically-driven counter cannot be interfered with magnetically. An individual serial number is engraved on each body.

## Features

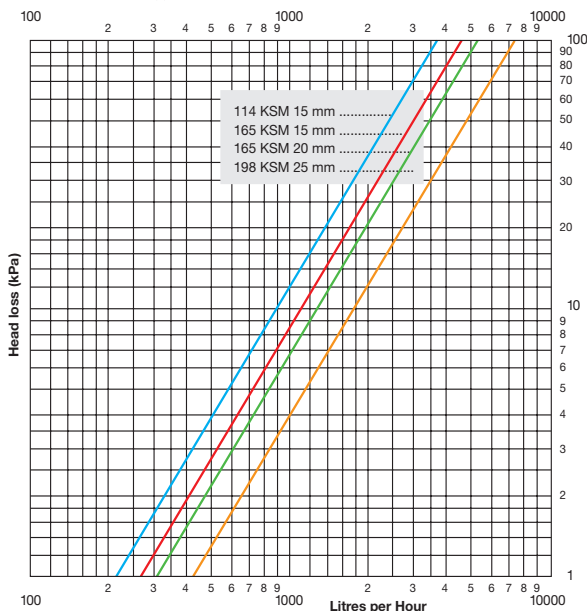
- Pulse output.
- Non-return valve (internal disc-type reverse flow restrictor which reduces the possibility of water being run back illegally).
- Grooved piston (see diagram next page: V130T)

## Materials

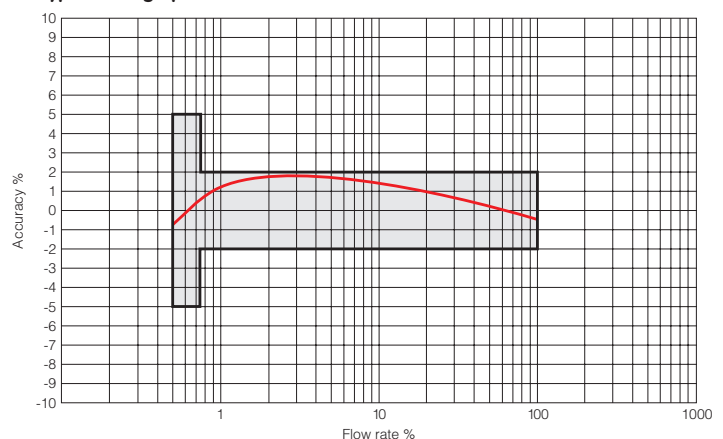
All meters are manufactured from highest quality materials ensuring maximum resistance to wear and corrosion. A comprehensive technical manual is available.

Meter Specifications	Nominal Size				
	mm	15 (114)	15 (165)	20(165)	25(198)
Maximum flow rate $q_s \pm 2\%$	m <sup>3</sup> /h	3.0	3.0	5.0	7.0
Permanent flow rate $q_p \pm 2\%$	m <sup>3</sup> /h	1.5	1.5	2.5	3.5
Transitional flow rate $q_t \pm 2\%$	l/h	22.5	120	37.5	52.5
Minimum flow rate $q_{min} \pm 5\%$	l/h	15.0	30.0	25.0	35.0
Starting flow (approximate)	l/h	5.7	5.7	9.5	13.2
Head loss at $q_{max}$	Refer to graph				
Meter resets to zero at	m <sup>3</sup>	10 000	10 000	10 000	10 000
Minimum indicated digit value	m <sup>3</sup>	0.00002	0.00002	0.00002	0.00002
Pulse output (litres per pulse)	litre	0.5	0.5	0.5	0.5
Maximum working pressure	kPa	1 600	1 600	1 600	1600
Maximum water temperature	°C	50	50	50	50
Meter length	mm	114	165	165	198
Weight - meter only	gram	433	477	498	662

Head loss curves (Typical) 15 & 20mm KSM T water meters



Typical flow graph for volumetric meters

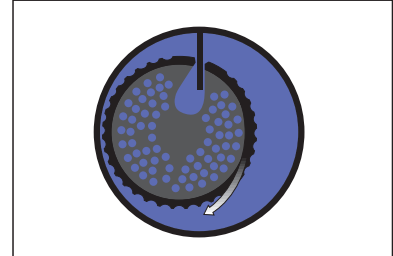


# The V130T Concentric Water Meter



The V130T concentric semi-positive rotary type domestic meter is designed for the measurement of cold potable water and offers accuracy, long maintenance-free working life and is highly resistant to tampering. The V130 has a standard inlet/outlet size of  $\varnothing 47.5\text{mm}$  and is compatible with all meter manifolds that comply with BS5728 specifications.

## Revolutionary Grooved Piston



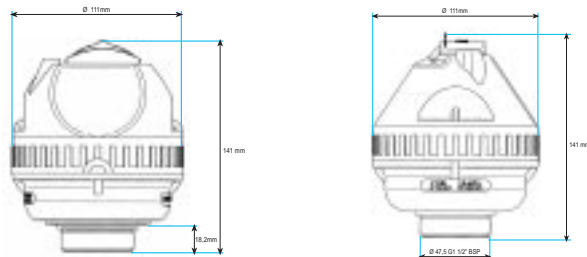
The Elster Kent V130T meter combines top in, bottom out chamber design with the unique grooved piston design in the measuring chamber. This assists the passage of suspended solids and gives excellent flow characteristics.

The result is dramatically reduced meter stoppages, improved durability and superior performance.

Relative motion of the grooved piston, it's action with the stationary chamber wall, creates small flow eddies which hold solids in suspension until flushed out, reducing meter stoppages.

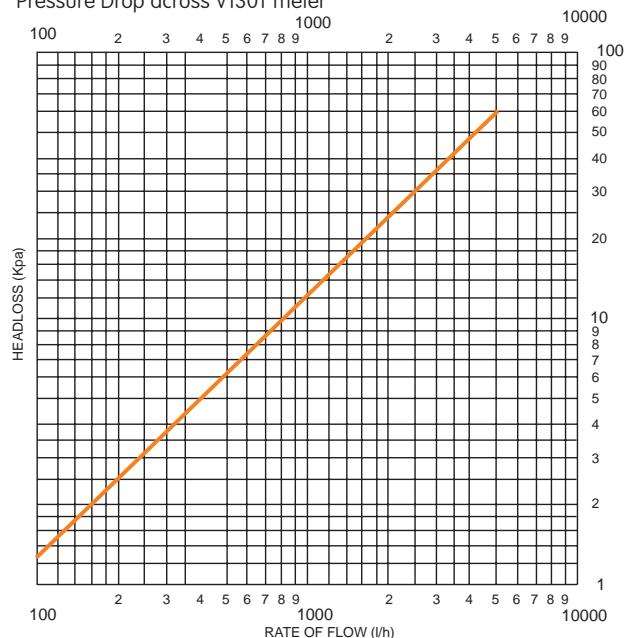
Performance Specifications	NOMINAL SIZE qp1.5		
	mm	15mm Class B	Actual Performance
Maximum flow rate $q_s \pm 2\%$	$\text{m}^3/\text{h}$	3	5
Permanent flow rate $q_p \pm 2\%$	$\text{m}^3/\text{h}$	1.5	2.5
Transitional flow rate $q_t \pm 2\%$	$\text{l}/\text{h}$	120	22.5
Minimum flow rate $q_{\text{min}} \pm 5\%$	$\text{l}/\text{h}$	30	15
Starting flow	$\text{l}/\text{h}$	5	5
Maximum working pressure	kPa	1 600	1 600
Meter Resets to Zero	$\text{m}^3$	10 000	10 000
Minimum Indicated Value	$\text{m}^3$	0.00002	0.00002
Pulse Output (Litres per pulse)	l	0.5	0.5
Maximum Water Temperature	$^{\circ}\text{C}$	50	50
Weight (meter only)	g	550	550
Height	mm	141	141
Diameter	mm	111	111

The V130T Concentric Meter is currently approved to Class B (qp 1.5)



## Pressure Drop Graph

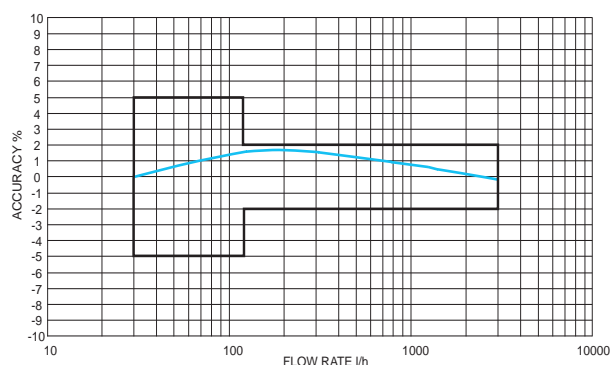
Pressure Drop across V130T meter



## Features/Benefits

- Wide accurate measuring range between 15 l/h and 5000 l/h
- A meter with a low flow measuring accuracy better than a Class B 15mm meter and a maximum flow rate of a 20mm meter in one.
- Sealed wet dial counter
- Prevents condensation under the lens.
- Mechanical drive type counter
- Prevents external magnetic interference.
- Standard concentric inlet/outlet design
- Easy installation in all makes of approved manifold meter boxes (BS5728)
- Pulse output 2 pulses per litre
- Upgradable to EMR, AMR, pre-payment, loggable etc.
- Volumetric measuring principle
- Low flow meter accuracy not affected by angle of installation.
- Revolutionary grooved piston
- Improved durability and performance.

## Typical Flow Graph



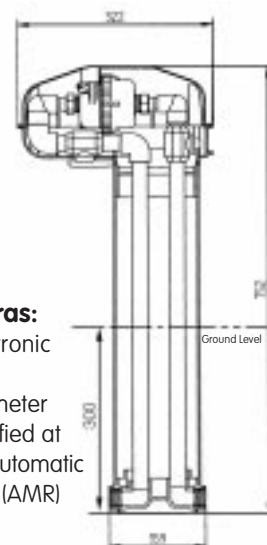
## The EZ3 Above Ground Meterbox

with a 114mm long Class C V110T KSM meter

Engineering thermal plastic EZ3 above ground meter box housing, 15mm V110 KSMT plastic bodied water meter 114mm long with non-return valve and fixed one pulse per 1/2 litre output facility, of the semi-positive rotary piston type and approved under the trade Metrology Act and Regulations and to SABS 1529-1:1994 class C specifications, complete with unique high quality plastic three-way (open/closed/trickle flow) ball valve fitted upstream of the



meter and a similar two-way (open/closed) consumer ball valve complete with 25mm HDPE internal piping and 3/4" (20mm) BSP glass nylon reinforced female connectors.



### Optional Extras:

200 l/day Electronic dispenser  
Pre-payment meter (must be specified at time of order)  
Automatic meter reading (AMR)

### Features:

- Easy to find and read
- Easy to install
- No interest to thieves as all parts are manufactured from engineering plastic
- Robust
- Upgradeable to automatic meter reading
- Meter has pulse output of 2 pulses per litre as a standard

## The Above Ground Concentric Meterbox

with a Class B 15/20mm multi range meter

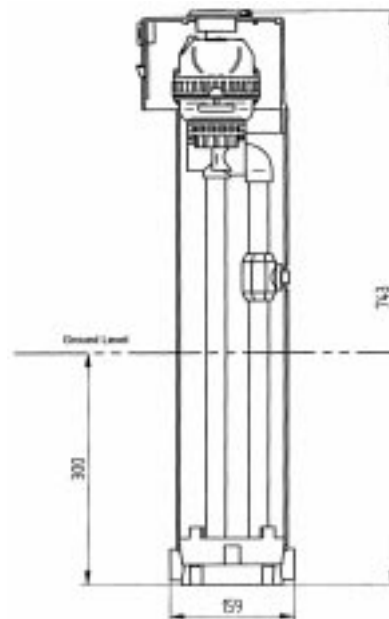
The Elster Kent Above Ground Meter Box is manufactured of non-metallic, UV resistant material, housing a plastic V130T Multi-Range (15/20mm) water meter with 25mm fusion welded pipes and fittings all within the box. The reading slot is covered by a flip back cover.

The plastic V130T Manifold Meter is approved to Class B 15mm specification and has a maximum flow rate of a 20mm meter and also has an approved pulse output of 2 pulses per litre.

The concept of raising the meter installation off the ground makes the meter easier to read plus gives the advantage of freedom from flooding, and dirt and mud obscuring the



counter reading. By pre-plumbing and pressure testing the whole unit for leaks it is ready for installation. The municipal 3 way trickle flow ball valve is actuated from the outside using a 10mm Allen key. The inlet and outlet connections are 20mm (3/4") glass nylon reinforced female threaded for use with 20mm male threaded pipe adaptors (not supplied)



### Features

- Easy to find and read.
- Easy to install.
- No interest to thieves as all parts are manufactured from engineering plastic.
- Robust.
- Multi range meter (15mm & 20mm in one).
- Upgradeable to automatic meter reading.
- Meter has pulse output of 2 pulses per litre as a standard.
- Low pressure drop.



## The RDP4 Meterbox

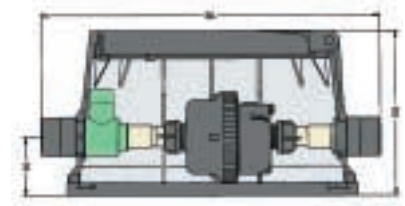
with a 114mm long  
Class C  
V110T KSM meter

### Meterbox Features:

- Base Plate
- 13mm 3 way trickle flow ball valve (plastic)

### Meterbox Option

- Lockshield for 3 way ball cock



### Specifications:

#### External connections:

20mm female thread.

**Mass with Meter:** 2,2kg

#### Meter Type:

114mm long 15mm Class C volumetric plastic wet dial V110 KSMT meter with pulse output and non-return valve.

#### Stop Valve:

13mm 3 way plastic flow ballvalve (plastic)



## The Standard Meterbox

with a 165mm long  
20mm Class C  
V110T KSM meter

### Meterbox Features:

- Base Plate
- 13mm 3 way plastic trickle flow ball valve (plastic)

### Meterbox Option:

Lockshield for 3 way ball valve (plastic)

### Specifications:

#### External Connections:

20mm glass nylon reinforced insert.

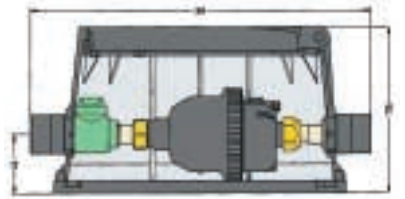
**Mass With Meter:** 2,2kg

#### Meter Type:

165mm long 20mm Class C, wet dial volumetric V110T KSM meter with pulse output and non-return valve.

#### Stop Valve:

13mm 3 way plastic trickle flow ball valve.





## The B1100 Standard Meterbox

with a 198mm long 25mm Class C V110T KSM with a non return valve

### Meterbox Features:

- Base Plate
- 19mm external 2 way municipal ball valve (plastic) fitted in a valve box.

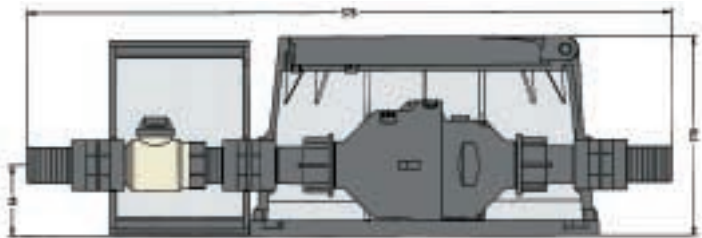
### Specifications:

**External Connections:** 25mm Plastic male iron threads

**Mass With Meter:** 2,8kg

**Meter Type:** 198mm long 25mm class C volumetric plastic wet dial V110T KSM with non-return valve and pulse output.

**Stop Valve:** 19mm external 2 way municipal ball valve (plastic) fitted in a valve box.



## The Wall Mounted Meterbox

with a 114mm long Class C V110T KSM meter

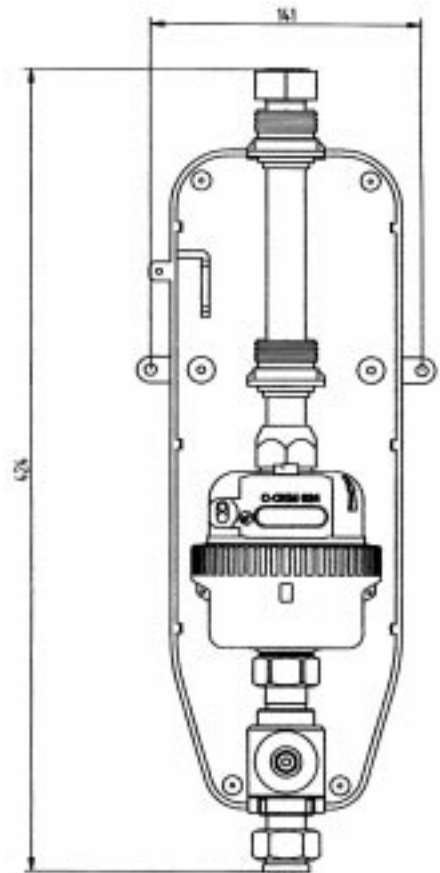
The wall mounted meterbox comprises of a plastic Class C V110T KSM meter complete with non-return valve and pulse output facility, pre-piped and pressure tested and is ready for easy installation. The unit comes with a 3 way trickleflow ballcock and is easily upgradeable to 200 litre a day dispenser or electronic meter reading (AMR).

### Connectors:

20mm female brass BSP threaded

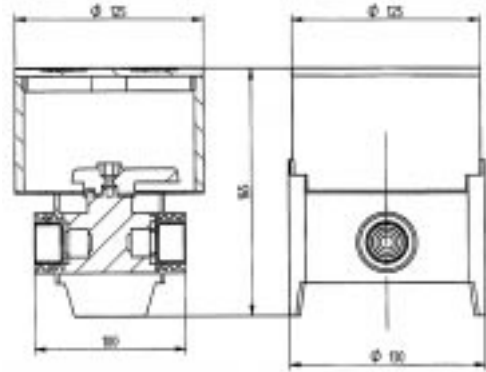
### Optional Extra's

Lockshield for trickleflow ball valve (plastic)





## The Consumer Valve Box

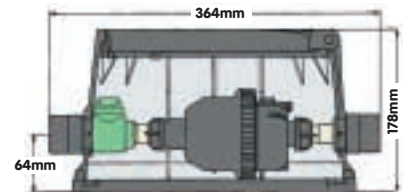


Consumer Valve Box  
with a 13mm ball valve (plastic) and 20mm glass nylon reinforced female inlet and outlet.



## The Standard Plastic Meterbox

with 165mm long  
15mm or 20mm  
Class B  
V110T KSM meter



### Specifications:

#### External Connections:

20mm glass nylon reinforced insert.

**Mass With Meter:** 2,2kg

#### Meter Type:

165mm long 15mm Class B, Plastic wet dial volumetric V110T KSM meter with pulse output and non-return valve.

#### Stop Valve:

13mm 3 way plastic trickle flow ball cock.

#### Meterbox Features:

- Base Plate
- 13mm 3 way plastic trickle flow ball cock

#### Meterbox Option:

Lockshield for 3 way ball cock

## 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.



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The company's policy is one of continuous improvement and the right is reserved to modify the specifications without notice

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