

SM150VR

SmartMeter™

Intelligent Water Meters

The first water meter with integral induction read capability.

With no moving parts, SmartMeter™ is not affected by the mechanical wear and subsequent inaccuracy associated with mechanical water meters, even in areas where sand, grit and other particulates are a concern. The meter's advanced sensing technology also delivers extended operational life with long term accuracy.

The unique air detection system prevents measurement of air flow, which can occur at high points in the water network and at the start of water delivery. Traditional meters under-record progressively throughout the product life, which results in the loss of significant revenue for water companies over the course of the meter's life.



SmartMeter Technology

SmartMeter Advantages

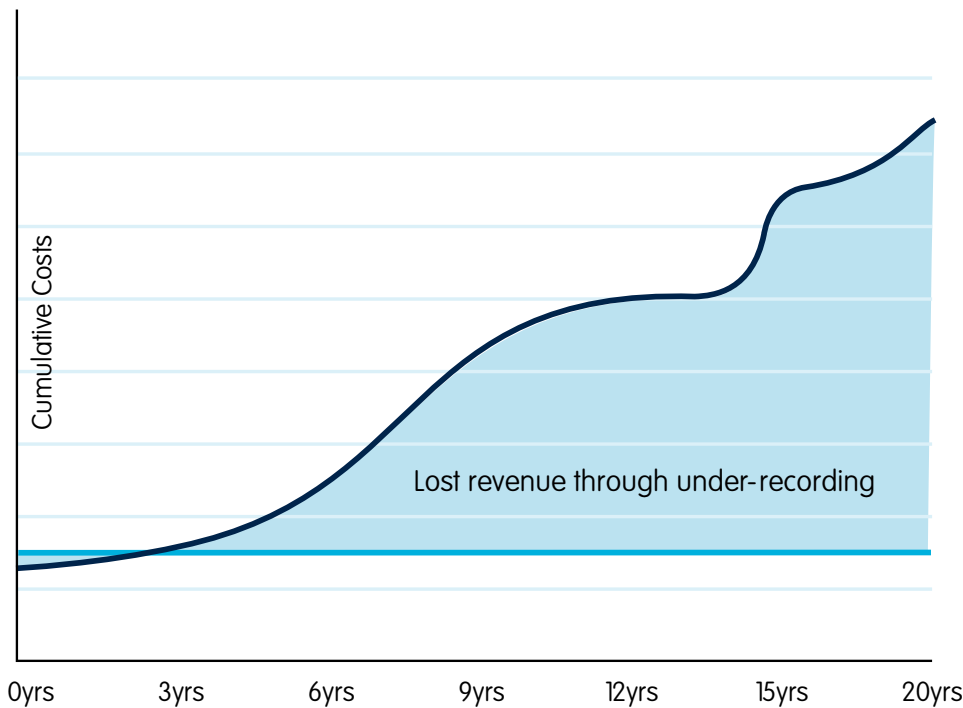
- Retains accuracy throughout its entire lifetime
- Unaffected by grit and particulates
- Does not measure air
- Outlasts more conventional meters
- Integral induction read facility
- Enabled for AMR connectivity
- Virtually silent operation
- Can be installed in any orientation

Whole Life Cost Savings

- Lifetime accuracy means no lost revenue through meter slowdown
- AMR compatible meters allow actual meter readings to be taken electronically – avoiding estimations and manual errors
- 15 year battery life

Cumulative Whole Life Cost:

SmartMeter — Vs Typical meter —



SmartMeter water meters show excellent whole life cost savings over traditional meters that rapidly deteriorate in performance. A continual decrease in mechanical meter accuracy after installation causes significant under-recording of consumption. The resulting loss of revenue from under-recording can amount to hundreds of pounds per meter over the course of its life.

SmartMeter SM150VR

Intelligent metering at economic cost

The SM150VR employs the same leading edge no moving parts technology pioneered by SmartMeter over 10 years. Benefiting from lifelong accuracy and a clear visual read display, the SM150VR is ideally suited for applications such as multiple occupancy buildings to accurately and fairly divide utility bills.



- Economic water metering system ✓
- Superior whole life revenue recovery compared to other meter technologies ✓
- 15 year battery life ✓
- Outlasts other meter types ✓
- Operates virtually silently ✓
- Measuring Instruments Directive (MID) Approved ✓
- Maintains whole life accuracy ✓
- AMR enabled meter with integral induction read function ✓
- Clear, easy-to-read screen ✓

SmartMeter SM150VR+ touch pad reading at a fraction of the cost of traditional AMR systems

The SM150VR+ enables water companies to obtain an accurate electronic read of the meter's encoded data through a unique integrated touch pad device. This ensures that the SmartMeter data output can be read at a considerably lower cost than a traditional AMR system.

- Low cost solution for meter reading ✓
- No manual input of data ✓
- Meter data retrieval through unique touch read system ✓
- Whole life accuracy – prevents lost revenue due to meter inaccuracy ✓

Technical Data/Specification

SM150VR/SM150VR+ Technical Specification										
Model	Thread Size	Distance Across Threads	Weight	Ingress Protection	Ambient Temp	Max Water Temp	Display Resolution	Max Display	Display Orientation	Battery Life
SM150VR/SM150VR+	G 3/4 B	110 +0/-2mm	0.4kg	IP68	-10°C to 85°C	50°C	1m ³	99,999	90° to flow direction (viewed from inlet)	15 years

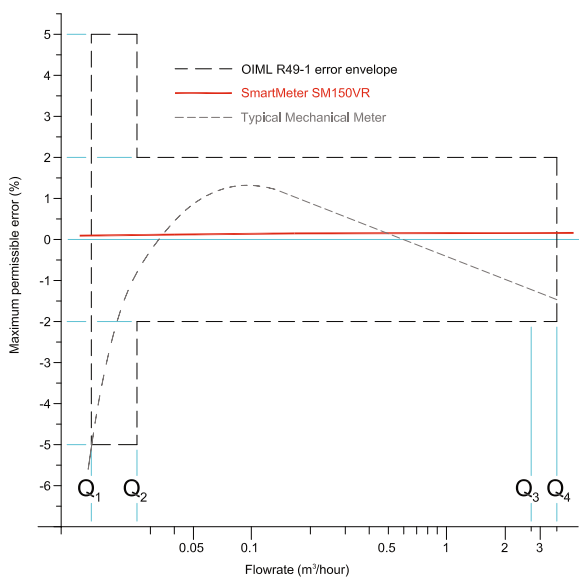
All models are available in Class C or Class D versions and OIML/MID approved meters. Due to our policy of continual improvement, SmartMeter reserves the right to change the specification without prior notice.

Performance Data OIML Specification	SM150VR+	SM150VR+
Approval Status	Approved	
Pressure Rating (Working)	16 bar	
Pressure Rating (Max)	20 bar	
Q ₃ /Q ₁ (ratio)	160	200
Q ₄ (m ³ /h)	3.125	3.125
Q ₃ (m ³ /h)	2.5	2.5
Q ₂ (l/h)	25	20
Q ₁ (l/h)	15.6	12.5
Pressure loss at Q ₃	<0.65 bar	<0.65 bar

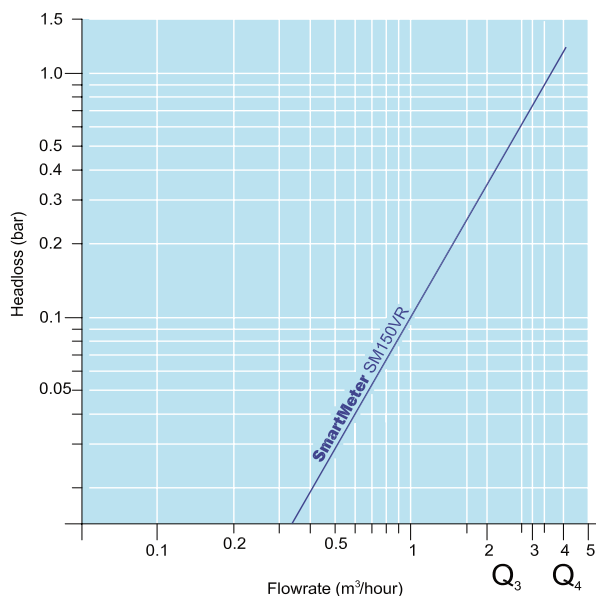
Performance Data BS5728-7:1997/ISO 4064-1:1993	SM150VR+ Class C	SM150VR+ Class D
q min Minimum flowrate (l/h) ± 5%	15	11.25
qt Transitional flowrate (l/h) ± 2%	22.5	17.25
qp Permanent flowrate (m ³ /h) ± 2%	1.5	1.5
qs Overload flowrate (m ³ /h) ± 2%	3.0	3.0
Pressure loss at qs	<1 bar	<1 bar
Pressure rating (Working)	16 bar	16 bar
Pressure rating (Max)	20 bar	20 bar

Available outputs: SM150VR = Visual Read, SM150VR+ = Inductive Read. All meters have direct LCD displays, which can be configured to customer requirements.

Meter Accuracy

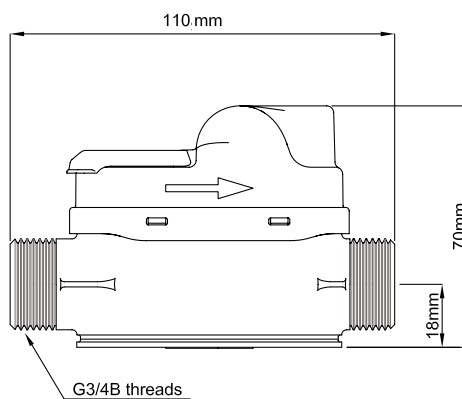
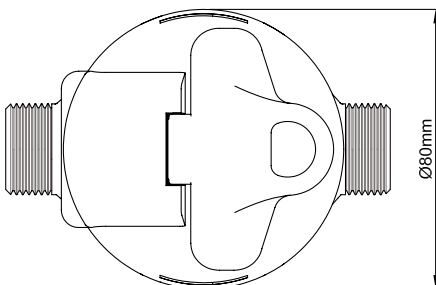
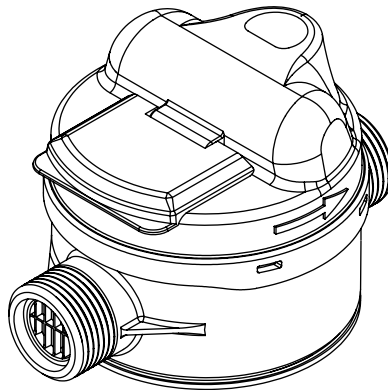
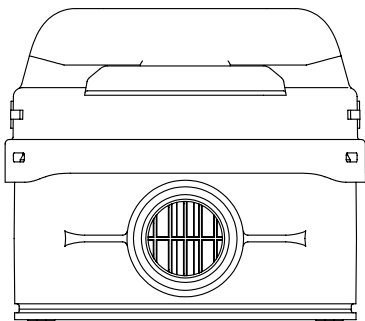


Head loss curve



More than one million SmartMeters installed globally

SM150VR/SM150VR Dimensions



Approvals and Product Development

SmartMeter is the first manufacturer of battery powered electronic residential water meters to have been awarded Measuring Instruments Directive (MID) approval. The SmartMeter programme of continual development ensures that a complete range of approved meters are available to our customers.

Approval/Certification	Product/Service	Website Address
UK Pattern Approval	SM150E/P	www.nwml.gov.uk
UK Pattern Approval	SM250E/P	www.nwml.gov.uk
Australian Pattern Approval	SM150E/P	www.measurement.gov.au
Australian Pattern Approval	SM250E/P	www.measurement.gov.au
OIML R49 Approval	SM150E/P	www.oiml.org
OIML R49 Approval	SM150VR+	www.oiml.org
OIML R49 Approval	SM250E/P	www.oiml.org
MID Approval	SM100E/P	www.ptb.de/index_en.html http://europa.eu/ www.nwml.gov.uk
MID Approval	SM150E/P	www.ptb.de/index_en.html http://europa.eu/ www.nwml.gov.uk
MID Approval	SM150VR+	www.ptb.de/index_en.html http://europa.eu/ www.nwml.gov.uk
MID Approval	SM250E/P	www.ptb.de/index_en.html http://europa.eu/ www.nwml.gov.uk
Materials WRAS listed	All potable water contact meter materials	www.wras.co.uk/directory
NSF61 (National Sanitary Foundation – USA)	SM700E/P	www.nsf.org
ISO 9001 – Manufacturing Certification	SmartMeter, CRN	www.iso.ch/iso/en/ISOOnline.frontpage
ISO 14001 – Environmental Compliance	SmartMeter, CRN	www.iso.ch/iso/en/ISOOnline.frontpage

Elster is one of the world's largest electricity, gas and water measurement and control providers. Our offerings include distribution monitoring and control, advanced smart metering, demand response, networking and software solutions, and numerous related communications and services – key components for enabling consumer choice, operational efficiency and conservation. Our products and solutions are widely used by utilities in the traditional and emerging Smart Grid markets.

Elster has one of the most extensive installed revenue measurement bases in the world, with more than 200 million metering devices deployed over the course of the last 10 years. It sells its products and services in more than 130 countries across electricity, gas, water and multi-utility applications for residential, commercial and industrial, and transmission and distribution applications.

Elster Metering Limited
130 Camford Way, Sundon Park, Luton,
Bedfordshire LU3 3AN
United Kingdom
Tel +44 (0)1582 846400
Fax +44 (0)1582 564728
water.metering@gb.elster.com
www.elstersmartmeter.co.uk

Copyright © 2008 Elster Group All rights reserved. No part of the publication may be reproduced in any material form without the written permission of the Elster Group except in accordance with the provisions of the Copyright, Designs and Patents Act 1988. The Company's policy is one of continuous improvement and the right is reserved to modify the specifications without notice.

8509B9228 ISSUE 2