

V100 (PSM)
Elster Honeywell
Brass
Volumetric Positive Displacement
Cold Water Meter
BSP Threaded



The V100 (formally PSM) is a robust water meter designed for the measurement of cold potable water that offers accuracy, long maintenance-free life and tamper resistance.

This meter operates on the volumetric rotary piston measurement principle and can achieve the highest levels of reading accuracy even at the lowest flow rate.

The meter can be installed in any position maintaining optimum performance with no loss of accuracy.

Optional retro-fit pulse probes are available for connection to dataloggers, BMS systems and remote displays.

Approvals, Features & Benefits

- MID 2004/22/EC
- OIML R49, EN14154, ISO4064
- WRAS approved product
- Robust & tamper resistant
- Easy to read counter
- Built-in reverse flow restrictor
- Optional pulse output facility

Pressure & Temperature

Maximum pressure:-
16 bar

Maximum temperature:-
30°C

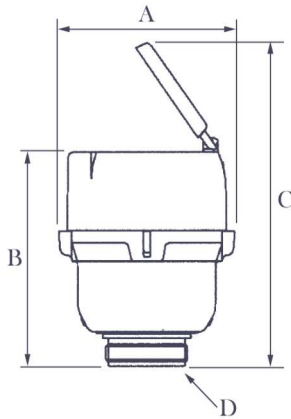
Size		15	20	25	30	40
A		134	165	199	260	300
B		86	86	104	120	158
C		228	267	311	370	421
D (BSPP)		¾	1	1¼	1½	2
E (BSPT)		½	¾	1	1¼	1½
Weight Kg		0.9	1.3	1.3	2.2	3.7
MID Flow Range*	Q₃/Q₁	R160	R160	R200	R160	R160
Min Flow Rate	Q₁ ± 5% l/h	15.625	25	31.5	62.5	100
Transitional Flow Rate	Q₂ ± 2% l/h	25	40	63	100	160
Max Permanent Flow Rate	Q₃ ± 2% m ³ /h	2.5	4	6.3	10	16
Max Overload Flow Rate	Q₄ ± 2% m ³ /h	3.125	5	7.875	12.5	20
Starting Flow	Approx. l/h	2	2	6	12	20
Maximum Registration	m³	9999.9999	9999.9999	99999.9999	99999.9999	99999.9999
Pulse Output	pulse/litre	1/0.5	1/0.5	1/5	1/5	1/5
Pressure Headloss	at Q₃ Bar	<0.63	<0.63	<0.63	<0.63	<0.63

* Supersedes BS5728 Class C

Optional Reed Switch Pulse Units. Can be retro-fitted to meters already installed.

Part No.	Type	Output		Cable Length	Pulse Wiring	Tamper Wiring
		15-20mm	25-40mm			
T110	T Probe (TL2 Variant)	1 pulse / 0.5 litre	1 pulse / 5 litres	5 M	Red & Blue**	Black & Yellow**
JTA4600	T Probe c/w Pulse Splitter	1 pulse / 0.5 litre	1 pulse / 5 litres	5 M	Red (+) & Black (-)	Blue & Yellow**

** Not polarity sensitive



V210
Elster Honeywell
Plastic/Brass
Volumetric Positive Displacement
Cold Water Meter
Coaxial/Manifold Connection
For Installation in Boundary or Meter Box



The V210 volumetric water meter is designed to be installed into a manifolds, boundary and meter boxes that have coaxial concentric connections. It incorporates many advanced design features to improve metering accuracy across a wide range of flow rates, from dripping taps to water for showers, baths and washing machines.

Optional retro-fit pulse & M-Bus modules are available for connection to data-loggers, BMS systems and remote displays.

Approvals, Features & Benefits

- MID 2004/22/EC
- EN14154, OIML R49 & ISO4064
- WRAS approved product
- Tamper resistant construction
- Detection of very low flows
- Optional communication module outputs

Pressure & Temperature

Maximum pressure:-
16 bar

Maximum temperature:-
30°C

Size	15*	20	25
Body Material	Polymer Plastic	Brass	Brass
A	94	94	130.5
B	124	136	142
C	204	203	209
D	1½" BSP Coaxial Connection	1½" BSP Coaxial Connection	2" BSP Coaxial Connection
Weight (Kg)	0.5	2	2
MID Flow Range	Q ₃ /Q ₁	R400 (Class D)	R315 (Class D)
Min Flow Rate	Q ₁ ± l/h	6.25	12.70
Transitional Flow Rate	Q ₂ ± l/h	10	20.32
Max Permanent Flow Rate	Q ₃ ± m ³ /h	2.5	4
Max Overload Flow Rate	Q ₄ ± m ³ /h	3.125	5
Starting Flow	Approx l/h	2	2
			3

* Standard specification (used in most boundary box & manifold installations)

Optional Standard Pulse / M-Bus / Radio Communication Modules. Can be retro-fitted to meters already installed. Compatible with most BMS, Dataloggers and AMR systems.**

Type	Part No.	Output		Cable Length
		Primary Channel 1	Secondary Channel 2	
Pulse	PR6-1:1	1 pulse/1 litre	1 pulse/1 litre	2 M
Pulse	PR6-1:10	1 pulse/1 litre	1 pulse/10 litres	2 M
Pulse	PR6-1:100	1 pulse/1 litre	1 pulse/100 litres	2 M
M-Bus	PR6M	Wired M-Bus EN13757 Standard		2 M
Radio	TPR6	Wavenis Protocol 868Mhz		N/A

** Check compatibility with your equipment supplier.

Boundary Meter Boxes (Optional)

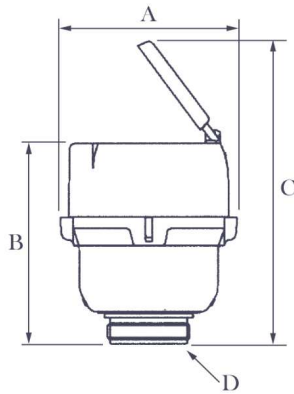
These boxes accept the V210 water meter and can be supplied with various pipe connections. Includes integral stopcock and check valve.



Installation Key (Optional)

Designed for the easy installation and removal of V210 water meters in boundary boxes.





V210H
Elster Honeywell
Plastic/Brass
Volumetric Positive Displacement
Cold Water Meter
With Electronic Register
Wireless M-Bus or Wired Pulse Output
Coaxial/Manifold Connection
For Installation in Boundary or Meter Box



The V210H volumetric water meter is designed to be installed into a manifolds, boundary and meter boxes that have coaxial concentric connections. It incorporates many advanced design features to improve metering accuracy across a wide range of flow rates, from dripping taps to water for showers, baths and washing machines.

Approvals, Features & Benefits

- MID 2004/22/EC
- EN14154, OIML R49 & ISO4064
- WRAS approved product
- Tamper resistant construction

Pressure & Temperature

Maximum pressure:-
16 bar

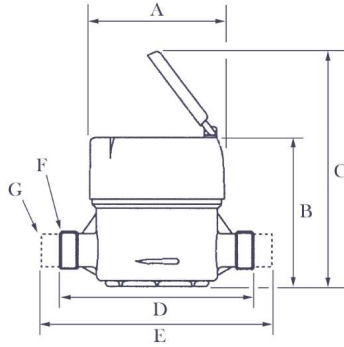
Maximum temperature:-
30°C

Size		15*	20	25
Body Material		Polymer Plastic	Brass	Brass
A		94	94	130.5
B		140	150	156
C		207	217	223
D		1½" BSP Coaxial Connection	1½" BSP Coaxial Connection	2" BSP Coaxial Connection
Weight (Kg)		1	1.1	2
MID Flow Range	Q₃/Q₁	R400 (Class D)	R315 (Class D)	R160 (Class C)
Min Flow Rate	Q₁ ± 5% l/h	6.25	12.70	39.40
Transitional Flow Rate	Q₂ ± 2% l/h	10	20.32	63
Max Permanent Flow Rate	Q₃ ± 2% m³/h	2.5	4	6.3
Max Overload Flow Rate	Q₄ ± 2% m³/h	3.125	5	7.875
Starting Flow	Approx. l/h	2	2	3

* Standard specification (used in most boundary box & manifold installations)

Electronic Register Technical Data	
Specifications	
Protection Class	IP68
Environmental Class	B
Mechanical Class	M1
Electromagnetic Class	E1
Battery Life	15 years
Datalogging	6400 values
Display	
Display Type	Liquid Crystal (LCD)
Measurement Units	Cubic Metres (m³)
Digit Height	Billable Units : 8mm, Decimal Units : 6mm
Range	999,999.99999 m³
Resolution	0.01 litres
Tell-Tale	Meter Operation / Flow Direction Indicator
Alert Indication	Alert Digit & Type Codification

Communication Options (Factory fitted & configured)	
EN13757-4 Wireless M-Bus (One-Way) T1 Mode	
Radio	868 MHz, 25mW
OMS Version	V3, Encryption Mode 5
Data Package	Current Meter Index Due Date Meter Index Alerts - Leak, Backflow, No Flow, Battery
Transmit Interval	12 secs (configurable)
Wired Pulse	
Pulse Value	1 pulse per litre (others on request)
Pulse Width	80ms
Pulse Mode Options	Forward & Reverse, Compensated + Tamper Bi-directional + Direction
Output	Volt Free, Open-Drain



V200

**Elster Honeywell
Plastic/Brass
Volumetric Positive Displacement
Cold Water Meter
BSP Threaded**



The Elster V200 water meter incorporates many advanced design features to improve metering accuracy across a wide range of flow rates, from dripping taps to water for showers, baths and washing machines.

It is designed to give a long, trouble-free working life, with excellent features such as the proven grooved piston design.

Optional retro-fit pulse & M-Bus modules are available for connection to data-loggers, BMS systems and remote displays.

Approvals, Features & Benefits

- MID 2004/22/EC
- EN14154, OIML R49 & ISO4064
- WRAS approved product
- Tamper resistant construction
- Detection of very low flows
- Optional communication module outputs

Pressure & Temperature

Maximum pressure:-
16 bar

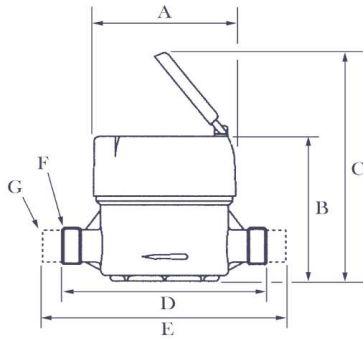
Maximum temperature:-
30°C

Size	15	20	25	30	40	
Body Material	Polymer Plastic	Brass	Brass	Brass	Brass	
A	94	94	120	150	180	
B	114	111	130	145	165	
C	194	177	200	215	235	
D	134	165	199	260	300	
E	228	267	311	380	421	
F (BSPP)	¾	1	1¼	1½	2	
G (BSPT)	½	¾	1	1¼	1½	
Weight Kg	0.63	1.2	2.3	3.7	5.3	
MID Flow Range*	Q₃/Q₁	R400 (Class D)	R315 (Class D)	R160 (Class C)	R160 (Class C)	R100 (Class C)
Min Flow Rate	Q₁ ± 5% l/h	6.25	12.70	39.40	62.50	100
Transitional Flow Rate	Q₂ ± 2% l/h	10	20.32	63	100	160
Max Permanent Flow Rate	Q₃ ± 2% m ³ /h	2.5	4	6.3	10	10
Max Overload Flow Rate	Q₄ ± 2% m ³ /h	3.125	5	7.875	12.5	12.5
Starting Flow	Approx. l/h	0.5	2	6	12	20

Optional Standard Pulse / M-Bus / Radio Communication Modules. Can be retro-fitted to meters already installed. Compatible with most BMS, Dataloggers and AMR systems.**

Type	Part No.	Output		Cable Length
		Primary Channel 1	Secondary Channel 2	
Pulse	PR6-1:1	1 pulse/1 litre	1 pulse/1 litre	2 M
Pulse	PR6-1:10	1 pulse/1 litre	1 pulse/10 litres	2 M
Pulse	PR6-1:100	1 pulse/1 litre	1 pulse/100 litres	2 M
M-Bus	PR6M	Wired M-Bus EN13757 Standard		2 M
Radio	TPR6	Wavenis Protocol 868Mhz		N/A

** Check compatibility with your equipment supplier.



V200H
Elster Honeywell
Plastic/Brass
Volumetric Positive Displacement
Cold Water Meter
With Electronic Register
Wireless M-Bus or Wired Pulse Output
BSP Threaded



The Elster V200H water meter incorporates many advanced design features to improve metering accuracy across a wide range of flow rates, from dripping taps to water for showers, baths and washing machines.

It is designed to give a long, trouble-free working life, with excellent features such as the proven grooved piston design.

Approvals, Features & Benefits

- MID 2004/22/EC
- EN14154, OIML R49 & ISO4064
- WRAS approved product
- Tamper resistant construction

Pressure & Temperature

Maximum pressure:-
16 bar

Maximum temperature:-
30°C

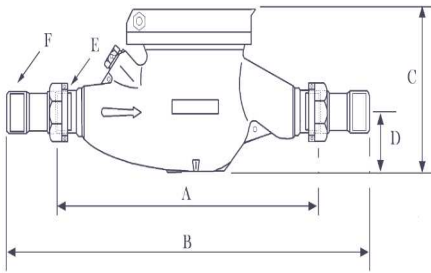
Size		15	20	25
Body Material		Polymer Plastic	Brass	Brass
A		94	94	120
B		114	111	130
C		194	177	200
D		134	165	199
E		228	267	311
F (BSPP)		¾	1	1¼
G (BSPT)		½	¾	1
Weight Kg		0.63	1.2	2.3
MID Flow Range*	Q₃/Q₁	R400 (Class D)	R315 (Class D)	R160 (Class C)
Min Flow Rate	Q₁ ± 5% l/h	6.25	12.70	39.40
Transitional Flow Rate	Q₂ ± 2% l/h	10	20.32	63
Max Permanent Flow Rate	Q₃ ± 2% m ³ /h	2.5	4	6.3
Max Overload Flow Rate	Q₄ ± 2% m ³ /h	3.125	5	7.875
Starting Flow	Approx. l/h	2	2	3

Electronic Register Technical Data Specifications	
Protection Class	IP68
Environmental Class	B
Mechanical Class	M1
Electromagnetic Class	E1
Battery Life	15 years
Datalogging	6400 values
Display	
Display Type	Liquid Crystal (LCD)
Measurement Units	Cubic Metres (m ³)
Digit Height	Billable Units : 8mm, Decimal Units : 6mm
Range	999,999.99999 m ³
Resolution	0.01 litres
Tell-Tale	Meter Operation / Flow Direction Indicator
Alert Indication	Alert Digit & Type Codification

Communication Options (Factory fitted & configured)	
EN13757-4 Wireless M-Bus (One-Way) T1 Mode	
Radio	868 MHz, 25mW
OMS Version	V3, Encryption Mode 5
Data Package	Current Meter Index Due Date Meter Index Alerts - Leak, Backflow, No Flow, Battery
Transmit Interval	12 secs (configurable)
Wired Pulse	
Pulse Value	1 pulse per litre (others on request)
Pulse Width	80ms
Pulse Mode Options	Forward & Reverse, Compensated + Tamper Bi-directional + Direction
Output	Volt Free, Open-Drain

M190 (MTHR)

**Elster Honeywell
Brass
Multi-Jet
Warm Water Meter
BSP Threaded**



The Elster M190 is a multi-jet warm water meter with a dry register. It operates on the velocity principle in which water enters the measuring chamber through a number of ports and drives the inner rotor. This movement is transmitted by a magnetic coupling to the register which displays the total quantity passed.

The register is dust-free, waterproof and vacuum sealed to avoid condensation. Numbered rollers show cubic metres, with pointers indicating litres.

Approvals, Features & Benefits

- MID 2004/22/EC
- EU-type certificate DE-15-MI001-PTB013
- Robust & tamper resistant
- Leak-proof construction
- Supplied with fitted pulse output

Pressure & Temperature

Maximum pressure:-
16 bar

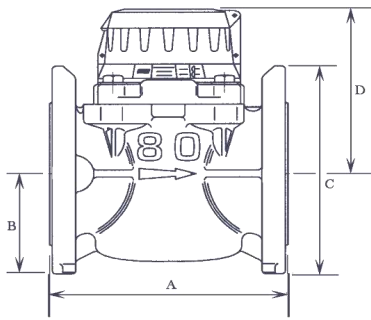
Maximum temperature:-
90°C

Size	15	20	25	30	40		
A	190	190	260	260	300		
B	240	240	320	320	370		
C	115	115	130	130	153		
D	31	31	43	43	46		
E (BSPP)	¾	1	1¼	1½	2		
F (BSPT)	½	¾	1	1¼	1½		
Weight Kg	1.5	1.6	2.5	2.5	3.7		
MID Flow Range*	Q₃/Q₁	R80 (Class B)	R80 (Class B)	R80 (Class B)	R80 (Class B)		
Min Flow Rate	Q₁ ± 5%	l/h	31.25	50	78.75	125	200
Transitional Flow Rate	Q₂ ± 2%	l/h	50	80	126	200	320
Max Permanent Flow Rate	Q₃ ± 2%	m ³ /h	2.5	4	6.3	10	16
Max Overload Flow Rate	Q₄ ± 2%	m ³ /h	3.125	5	7.875	12.5	20
Pulse Output	pulse/litre	1/100	1/100	1/100	1/100	1/100	1/100

* When installed horizontally

T162 Factory Fitted Pulse Data		Wiring		
Type	Reed switch potted protection IP68	Brown	Pulse Output	Not Polarity Sensitive
Contact Load	24vDC max 50mA	White	Pulse Output	Not Polarity Sensitive
Resistance	100 Ohm	Green	Tamper Loop	Not Polarity Sensitive
Cable	3m long, Ø3.3mm, 3 x 0.14mm ²	White	Tamper Loop	Not Polarity Sensitive





H4000
Elster Honeywell
Cast Iron (Epoxy Coated)
Woltmann, Turbine
Bulk Cold Water Meter
Flanged PN16



The Elster H4000 is a Woltmann (turbine) water meter designed for measuring bulk flows of cold potable water in commercial or industrial applications and for revenue billing.

Meets with all relevant standards, substantially exceeding specifications for forward flow installations in horizontal, vertical and inclined pipelines.

Optional retro-fit pulse & M-Bus modules are available for connection to data-loggers, BMS systems and remote displays.

Approvals, Features & Benefits

- MID 2004/22/EC
- EN14154, ISO4064
- WRAS approved product
- Forward and reverse flow metering
- Longer wear life for optimum accuracy
- Optional pulse & M-Bus output facility

Pressure & Temperature

Maximum pressure:-
16 bar

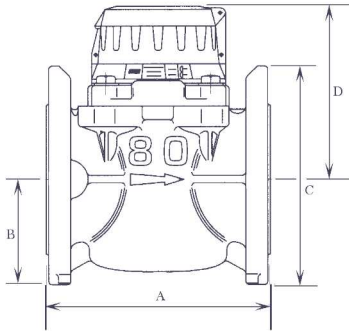
Maximum temperature:-
50°C

Size	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
A (ISO Long)	300*	300	300	350	350	-	500	-	-	-
A (ISO Short)		200*	200*	200*	250*	250	300*	350*	450	500
A (Old Kent)	311	311	-	413	483	-	-	520	-	-
B	78	78	86	94	106	118	135	165	198	225
C	151	166	186	201	228	251	286	341	409	461
D	148	148	148	159	159	159	206	228	246	246
Weight Kg (ISO Short)	-	12.2	13	14.1	19.4	20.5	37.5	47.5	82	104
Weight Kg (ISO Long)	11.8	13.1	14.4	16.6	21	-	43.5	-	-	-
MID Flow Range** Q_3/Q_1	R125	R125	R63	R125	R125	R125	R200	R160	R160	R125
Min Flow Rate $Q_1 \pm 5\%$ l/h	500	500	1000	1280	1280	1280	2000	3940	6250	12800
Transitional Flow Rate $Q_2 \pm 2\%$ l/h	810	810	1600	2050	2050	2050	3200	6300	10000	20480
Max Permanent Flow $Q_3 \pm 2\%$ m ³ /h	63	63	63	160	160	160	400	630	1000	1600
Max Overload Flow $Q_4 \pm 2\%$ m ³ /h	79	79	79	200	200	200	500	787.5	1250	2000
Starting Flow Approx. l/h	150	160	170	220	250	250	900	1200	1800	1800
Maximum Registration Millions m ³	1	1	1	1	1	1	10	10	10	10
Pressure Headloss at Q_3 Bar	0.39	0.24	0.19	0.18	0.18	0.24	0.15	0.12	0.15	0.37

Optional Standard Pulse / M-Bus / Radio Communication Modules. Can be retro-fitted to meters already installed. Compatible with most BMS, Dataloggers and AMR systems.***

Type	Part No.	Output (DN40-DN125)		Output (DN150-DN300)		Cable Length
		Primary Ch.	Secondary Ch.	Primary Ch.	Secondary Ch.	
Pulse	PR7-10:10 (2926M1222)*	10 litres/pulse	10 litres/pulse	100 litres/pulse	100 litres/pulse	5 M
Pulse	PR7-1:10 (2925M1224)	1 litre/pulse	10 litres/pulse	10 litres/pulse	100 litres/pulse	5 M
Pulse	PR7-1:100 (2925M1263)	1 litre/pulse	100 litres/pulse	10 litres/pulse	1 m ³ /pulse	5 M
Pulse	PR7-1:1000 (2925M1264)	1 litre/pulse	1 m ³ /pulse	10 litres/pulse	100 m ³ /pulse	5 M
M-Bus	PR7M (2925M1269)	Wired M-Bus EN13757 Standard				5 M
Radio	TPR7 (2925M1305)	Wavenis Protocol 868Mhz c/w Internal Antenna				N/A
Radio	TPR7 (2925M1306)	Wavenis Protocol 868Mhz c/w External Antenna				2 M

* Standard option ** Forward flow *** Check compatibility with your equipment supplier.



H5000
Elster Honeywell
Cast Iron (Epoxy Coated)
Woltmann, Turbine
Bulk Cold Water Meter
With Electronic Register & Pulse Output
Flanged PN16



The Elster H5000 is a Woltmann (turbine) water meter designed for measuring bulk flows of cold potable water in commercial or industrial applications and revenue billing.

The H5000 has the widest measuring range of any metering technology with a single measuring element. With low flow metering that almost matches combination meters, H5000 provides a metrological performance that ensures nearly every drop is measured.

Approvals, Features & Benefits

- MID 2004/22/EC
- WRAS approved product
- Retro-fits into H4000 body
- Advanced electronic register
- 15 year battery life in normal operation
- Integrated communications

Pressure & Temperature

Maximum pressure:-
16 bar

Maximum temperature:-
50°C

Size	DN40	DN50	DN65	DN80(LF)	DN80	DN100	DN125	DN150
A (ISO Long)	300*	300	300	300*	350	350	-	500
A (ISO Short)	-	200*	200*	-	200*	250*	250	300*
A (Old Kent)	311	311	-	413	-	483	-	-
B	78	78	86	94	94	106	118	135
C	151	166	186	201	201	228	251	286
D	148	148	148	149	149	149	159	206
Weight Kg (ISO Short)	-	12.2	13	14.1	-	19.4	20.5	37.5
Weight Kg (ISO Long)	11.8	13.1	14.4	16.6	16.6	21	-	43.5
MID Flow Range**	Q₃/Q₁	R500	R800	R800	R800	R800	R800	R800
Min Flow Rate	Q₁ ± 5% l/h	80	80	80	80	200	200	200
Transitional Flow Rate	Q₂ ± 2% l/h	130	130	130	130	320	320	320
Max Permanent Flow Rate	Q₃ ± 2% m ³ /h	40	63	63	63	160	160	160
Max Overload Flow Rate	Q₄ ± 2% m ³ /h	50	79	79	79	200	200	200
Starting Flow	Approx. l/h	20	20	20	20	50	50	50
Pressure Headloss	at Q₃ Bar	0.3	0.37	0.31	0.33	0.3	0.35	0.4

Register & Display

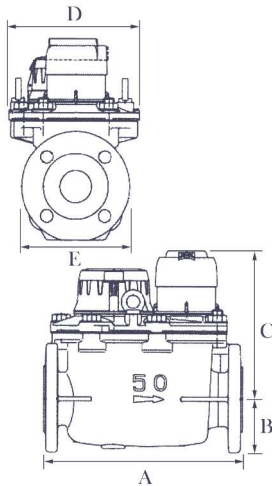


- (1) Hermetically sealed, mineral glass register prevents moisture and water ingress from damaging the electronics and ensures good visibility.
- (2) Large, 12mm high index with up to seven distinct digits ensure easy visual readings and avoids data errors.
- (3) Sub-units (decimals) are clearly segregated by a red box ensure accurate readings.
- (4) Real-time flow rate display, avoids the need to make manual calculations based on pointers.
- (5) Infrared interface for factory communication, upgrades and additional communication devices.

Standard Factory Fitted Pulse Data (Other pulse rates and wireless M-Bus on request)

Output (DN40-DN125)		Output (DN150)		Cable Length
Primary Channel	Secondary Channel	Primary Channel	Secondary Channel	
1 pulse/10 litres	1 pulse/100 litres	1 pulse/100 litres	1 pulse/1000 litres	3 M

Contact Load : 30V max, 30mA max
Channels 1 & 2 (Pulses) : Forward & Reverse Flow (R+F) or Compensated (F-R)
Channel 3 (Signal) : Tamper & Flow Direction (F+R mode)



C4000
Elster Honeywell
Cast Iron (Epoxy Coated)
Combination Type
Cold Bulk/Low Flow Water Meter
Flanged PN16



The Elster C4000 is designed for bulk flow applications where wide variations in flow occur.

At high and medium flow rates the primary Woltmann meter chamber registers usage and at lower flow rates the changeover valve diverts flow to the secondary Volumetric meter which registers the usage.

The "in-line" design facilitates a short overall length with significantly reduced width compared to conventional by-pass meters.

Approvals, Features & Benefits

- Class B performance on high/medium flows
- Class D performance on low flows
- ISO4064, BS5728
- WRAS approved product
- High turndown ratio
- Compact, in-line construction

Pressure & Temperature

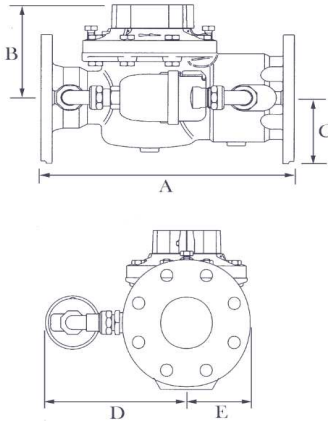
Maximum pressure:-
16 bar

Maximum temperature:-
30°C

Size	DN50	DN65	DN80	DN100
A	300	300	350	350
B	80	86	104	115
C	225	225	245	255
D	205	205	250	280
E	166	186	201	228
Weight Kg	25	27	35	40
Turndown Ratio	3.333	3.333	13.333	16.667
Min Flow Rate	± 5%	l/h	15	15
Transitional Flow Rate	± 2%	l/h	22.5	22.5
Max Permanent Flow Rate	± 2%	m ³ /h	25	180
Max Overload Flow Rate	± 2%	m ³ /h	50	250
Changeover Valve Opening Flow		m ³ /h	1.8	2.2
Changeover Valve Closing Flow		m ³ /h	1.2	1.4

Low Flow Optional Pulse / M-Bus / Radio Modules				
Type	Part No.	Output		Cable Length
		Primary Ch.	Secondary Ch.	
Pulse	PR6-1:1	1 pulse/1 litre	1 pulse/1 litre	2 M
Pulse	PR6-1:10	1 pulse/1 litre	1 pulse/10 litres	2 M
Pulse	PR6-1:100	1 pulse/1 litre	1 pulse/100 litres	2 M
M-Bus	PR6M	Wired M-Bus EN13757 Standard		2 M
Radio	TPR6	Wavenis Protocol 868Mhz		N/A

High Flow Optional Pulse / M-Bus / Radio Modules				
Type	Part No.	Output		Cable Length
		Primary Ch.	Secondary Ch.	
Pulse	PR7-10:10	10 litres/pulse	10 litres/pulse	5 M
Pulse	PR7-1:10	1 litre/pulse	10 litres/pulse	5 M
Pulse	PR7-1:100	1 litre/pulse	100 litres/pulse	5 M
Pulse	PR7-1:1000	1 litre/pulse	1 m ³ /pulse	5 M
M-Bus	PR7M	Wired M-Bus EN13757 Standard		5 M
Radio	TPR7	Wavenis Protocol 868Mhz c/w Int Antenna		N/A
Radio	TPR7	Wavenis Protocol 868Mhz c/w Ext Antenna		2 M



C4200
Elster Honeywell
Cast Iron (Epoxy Coated)
Combination Type
Cold Bulk/Low Flow Water Meter
Flanged PN16



The Elster C4200 is designed for bulk flow applications where wide variations in flow occur.

At high and medium flow rates the primary Woltmann meter chamber registers usage and at lower flow rates the changeover valve diverts flow to the secondary Volumetric meter which registers the usage.

Approvals, Features & Benefits

- Class B performance on high/medium flows
- Class D performance on low flows
- ISO4064, BS5728
- WRAS approved product
- High turndown ratio
- Compact, in-line construction

Pressure & Temperature

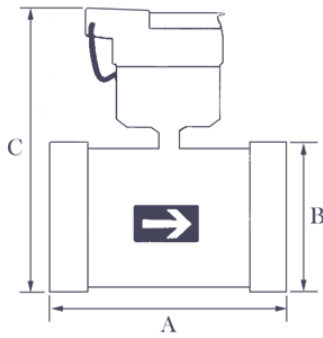
Maximum pressure:-
16 bar

Maximum temperature:-
30°C

Size	DN150
A	500
B	207
C	138
D	348
E	143
Weight Kg	50
Turndown Ratio	7500
Min Flow Rate	± 5% l/h 60
Transitional Flow Rate	± 2% l/h 90
Max Permanent Flow Rate	± 2% m³/h 450
Max Overload Flow Rate	± 2% m³/h 600
Changeover Valve Opening Flow	m³/h 7.2
Changeover Valve Closing Flow	m³/h 4.6

Low Flow Optional Meter Pulse Unit			
Type	Part No.	Output	Cable Length
Pulse	T110	1 pulse/5 litre	2 M

High Flow Optional Pulse / M-Bus / Radio Modules				
Type	Part No.	Output		Cable Length
		Primary Ch.	Secondary Ch.	
Pulse	PR7-10:10	10 litres/pulse	10 litres/pulse	5 M
Pulse	PR7-1:10	1 litre/pulse	10 litres/pulse	5 M
Pulse	PR7-1:100	1 litre/pulse	100 litres/pulse	5 M
Pulse	PR7-1:1000	1 litre/pulse	1 m³/pulse	5 M
M-Bus	PR7M	Wired M-Bus EN13757 Standard		5 M
Radio	TPR7	Wavenis Protocol 868Mhz c/w Int Antenna		N/A
Radio	TPR7	Wavenis Protocol 868Mhz c/w Ext Antenna		2 M



Q4000

**Elster Honeywell
Stainless Steel
Electromagnetic
Water Meter**

Flange Wafer Type
PN10/16, ANSI150, BST D & E



The Elster Q4000 Electromagnetic water meter provides consistent accuracy over a wide flow rate measuring range. It has an unrestricted flow tube with no moving parts.

Real time data is displayed on an easy-to-read LCD, showing volume and instantaneous flow rates.

All Q4000 meters are supplied with their own installation kit, including studding, nuts, washers and gaskets.

Approvals, Features & Benefits

- MID 2004/22/EC
- CEN PR14154, ISO4064, OIML R49
- WRAS approved product
- Lightweight & easy to install
- Suitable for water with above average solids
- Optional pulse & remote display

Pressure & Temperature

Maximum pressure:-
16 bar

Maximum temperature:-
70°C

Size	DN50	DN65	DN80	DN100	DN125	DN150	DN200		
A	200	200	200	250	250	300	350		
B	102	121	133	159	190	216	272		
C	258	278	289	314	345	400	455		
Weight Kg	4.5	5	5.5	6.5	7.5	9.5	15		
MID Flow Range	Q₃/Q₁	R200	R200	R200	R200	R200	R200		
Min Flow Rate	Q₁ ± 5%	l/h	0.10	0.16	0.25	0.40	0.63	1.0	1.6
Transitional Flow Rate	Q₂ ± 2%	l/h	0.16	0.26	0.40	0.64	1.0	1.6	2.6
Max Permanent Flow Rate	Q₃ ± 2%	m ³ /h	40	63	100	160	250	400	630
Max Overload Flow Rate	Q₄ ± 2%	m ³ /h	50	79	125	200	313	500	788
Pressure Headloss	at Q₃	Bar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1



Register & Display

Volume An integrating value displays the net volume of water measured

Flow rate If water is flowing in the reverse direction a minus sign is displayed to the left of the values

Low-battery Indicator will appear when the battery voltage is low and the meter should be replaced

No-water The indicator will blink when there is an empty pipe or no water in the meter



SPA7047 - Remote Display (Optional)

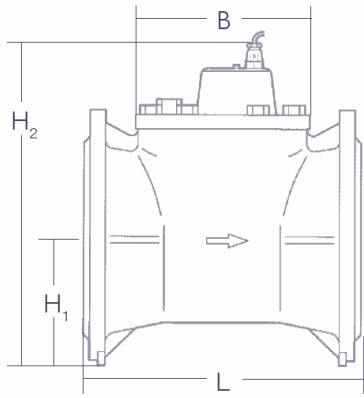
The Q4000 remote display unit provides the ability to see the actual reading and flow rates from the meter. The unit is self powered using its own batteries. An encoded signal is used to communicate between the meter and remote display to ensure that the two display are always identical. The display is rated to IP63 and has a battery life of 10 years.

Contact us for pulse data for connection to the remote display as they differ to the standard modules.

Standard Communications Modules				
Type	Part No.	Output		Cable Length
		Primary Channel	Secondary Channel	
Pulse	SPA7001	1 pulse/1 litre*	1 pulse/1 litre*	10 M
Pulse	SPA7002	1 pulse/10 litres	1 pulse/10 litres	10 M
Pulse	SPA7003	1 pulse/100 litres	1 pulse/100 litres	10 M
Pulse	SPA7004	1 pulse/1000 litres	1 pulse/1000 litres	10 M

* DN150-200 versions = 1 pulse/10 litres

Additional Data	
Battery Life	10 years at 30°C ambient
Sampling Rate	0.5 Seconds Fixed
Water Conductivity	50µS/cm or more
Water Proofing	IP68
Installation Kit	Extended bolts, nuts & washers



H4300
Elster Honeywell
Cast Iron (Epoxy Coated)
Woltmann, Turbine
Bulk Hot Water Meter
Flanged PN16



The Elster is a Woltmann-type horizontal vane hot water meter particularly suited to the high and sustained flows of bulk metering to a maximum temperature of 120°C.

A magnetic drive between the measuring element and counter reduces the number of working parts in contact with water and the corrosion and heat-resistant components guarantee excellent measuring properties, reliability and a long service life.

Approvals, Features & Benefits

- EN 1434 approval
- Hermetically sealed dry dial register
- Leak-proof construction
- Tamper proof
- Factory fitted pulse output facility

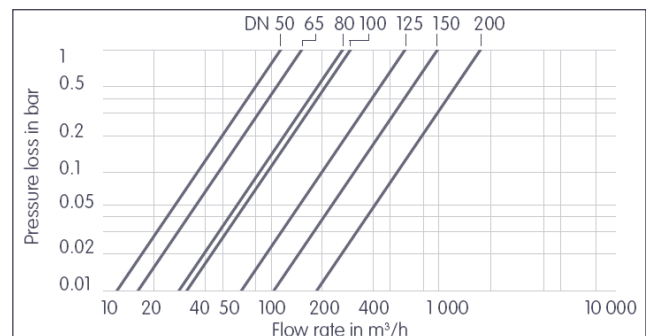
Pressure & Temperature

Maximum pressure:-
16 bar

Maximum temperature:-
120°C

Size		DN50	DN65	DN80	DN100	DN150	DN200
L		200	200	225	250	300	350
B		155	155	200	220	285	340
H1		75	83	92	110	135	163
H2		200	206	292	310	379	407
Weight Kg		11	12	18	20	39	47
Starting Flow Rate	± 5% l/h	130	130	270	500	1700	2000
Transitional Flow Rate	± 2% l/h	550	550	2000	2400	4500	8000
Max Permanent Flow Rate	± 2% m³/h	15	25	40	60	150	250
Max Overload Flow Rate	± 2% m³/h	30	30	90	200	300	500

Factory Fitted Pulse Data	
DN50-100 Output	1 pulse per 100 litres
DN150-200 Output	1 pulse per 1000 litres
Type	Reed switch potted protection IP68
Contact Load	24vDC max 200mA
Resistance	100 Ohm/0.25 W
Cable Length	3 M



Pulse Modules

Common Retro-Fitted
To Suit Elster (Honeywell)
Water Meters



T110 (S-135) JTA6002 volt free reed switch pulse T-probe to suit V100 & V110 water meters

The probe is fitted with a 100Ω series resistor. Rated at maximum 50vdc.

T110 (S-135) OUTPUT	DN	15	20	25	30	40
	litre/pulse	0.5/1	0.5/1	5/1	5/1	5/1



PR6 1:1 Inductive pulse unit to suit V200, V210 & V220 water meters (New Style)

This pulser has both primary and secondary outputs, self-powered by long life battery (over 7 years min).

PR6 1:1 OUTPUT	DN	All Sizes
Primary Output	litre/pulse	1/1
Secondary Output	litre/pulse	1/1



T125 (S-139) volt free reed switch pulse unit to suit V200 & V210 (Old Style with grey shroud)

T120 (S-140) volt free reed switch pulse unit to suit V200 & V210 (Old Style with black shroud)

The probe is fitted with a 100Ω series resistor. Rated at maximum 50vdc.

T125 (S-139) & T120 (S-149) OUTPUT	DN	All Sizes
	litre/pulse	1/1



PR7 10:10 Low speed inductive pulse unit to suit H4000 & S2000 water meters (New Style)

This pulser has both primary and secondary outputs, self-powered by long life battery (over 7 years min).

PR7 10:10 OUTPUT	DN	40	50	65	80	100	150	200	250	300
Primary Output	litre/pulse	10/1	10/1	10/1	10/1	10/1	100/1	100/1	100/1	100/1
Secondary Output	litre/pulse	10/1	10/1	10/1	10/1	10/1	100/1	100/1	100/1	100/1



PR7 1:10 High speed inductive pulse unit to suit H4000 & S2000 water meters (New Style)

This pulser has both primary and secondary outputs, self-powered by long life battery (over 7 years min).

PR7 1:10 OUTPUT	DN	40	50	65	80	100	150	200	250	300
Primary Output	litre/pulse	1/1	1/1	1/1	1/1	1/1	10/1	10/1	10/1	10/1
Secondary Output	litre/pulse	10/1	10/1	10/1	10/1	10/1	100/1	100/1	100/1	100/1

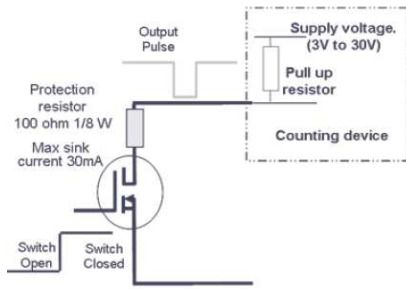


T140 Dovetail reed unit to suit H4000 & S2000 water meters (Old Style)

The probe is fitted with a 100Ω series resistor. Rated at maximum 24vdc.

T140 OUTPUT	DN	40	50	65	80	100	150	200	250	300
Option 1	litre/pulse	10/1	10/1	10/1	10/1	10/1	100/1	100/1	100/1	100/1
Option 2	litre/pulse	1000/1	1000/1	1000/1	1000/1	1000/1	1,000/1	1,000/1	1,000/1	1,000/1





PR6/PR7

Elster Honeywell Inductive Pulse Communication Modules To Suit Elster (Honeywell) Water Meters



Designed with advanced bi-directional inductive technology helping to enhance the efficiency of network system management, leakage control and reading of water meters remotely.

The inductive pulse modules have two outputs, offering both high and low speed bi-directional pulse capabilities as standard. They are compatible with most Building Management Systems (BMS), Data Loggers, Remote Readers and AMR systems.

Operating Principles

Outputs are all "open drain". This means an electronic switch transistor is used, it opens and closes just like a reed switch does.

Pulse Communication Module Standard Outputs

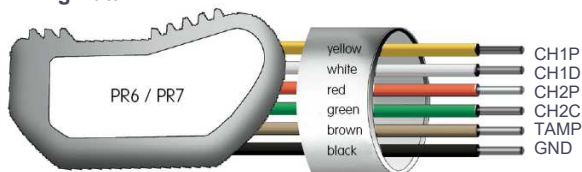
Part No.	Compatible Meters	Output (DN15-DN100)		Output (DN150-DN300)		Cable Length
		Primary	Secondary	Primary	Secondary	
PR6-1:1	V200	1 pulse/1 litre (K1)	1 pulse/1 litre (K1)	-	-	2 M
PR6-1:10	V210	1 pulse/1 litre (K1)	1 pulse/10 litres (K10)	-	-	2 M
PR6-1:100	C4000*	1 pulse/1 litre (K1)	1 pulse/100 litres (K100)	-	-	2 M
PR7-1:10	H4000, S2000	1 pulse/1 litre (K1)	1 pulse/10 litre (K10)	1 pulse/10 litres (K1)	1 pulse/100 litres (K10)	5 M
PR7-10:10	C4000**	1 pulse/10 litres (K10)	1 pulse/10 litres (K10)	1 pulse/100 litres (K10)	1 pulse/100 litres (K10)	5 M
PR7-10:100	C4200**	1 pulse/10 litres (K10)	1 pulse/100 litres (K100)	1 pulse/100 litres (K10)	1 pulse/1000 litres (K100)	5 M

* Low flow by-pass meter ** High flow main meter K = K-factor

Additional Data

Power Source	3.6V Lithium Battery (7-14 years life)	Output Voltage	30V max
Environment	Indoor or outdoor use	Sink Current	30mA max
IP Class	IP68	Pulse Rate	75Hz max (meter dependent)
Operational Temp	-15°C to 65°C	K1 Pulse Width (PR6)	80ms
Humidity Range	Up to 100% RH	K1 Pulse Width (PR7)	10ms
Pollution Degree	III	K10 & K100 Pulse Width (All)	100ms

Wiring Data



•Use the Secondary (**Red**) CH2P compensated output for general data logging, remote displays, or AMR equipment.

•Use the Primary (**Yellow**) CH1P output where reverse flow monitoring is required. Most data loggers support bidirectional monitoring.

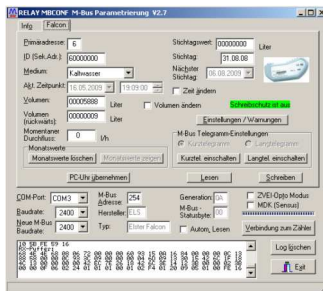
For applications such as SCADA, BMS, PLC, the outputs may be connected via pull-up resistor up to 30V.

Yellow (CH1P)	White (CH1D)	Red (CH2P)	Green (CH2C)	Brown (TAMP)	Black (GND)
Primary Pulse Channel 1 Output	Directional Flag	Secondary Pulses Channel 2 Output	Compensation Flag	Tamper	Common
Outputs all pulses regardless of direction	Gives the direction of the pulses on CH1P. The signal is High for Forward Flow and Low for Reverse Flow	Outputs pulses that are compensated for backwards flow. The module counts the backwards flow and stops outputting until the same forward flow has occurred	Indicates when compensation is occurring by going to Low state during backflow compensation	Activates to High state when the PR6/7 is removed from the meter or low battery	Ground 0V

Please Note : Always check compatibility with your equipment supplier

PR6M / PR7M

**Elster Honeywell
Inductive M-Bus
Communication Modules
To Suit Elster (Honeywell)
Water Meters**



Designed with advanced bi-directional inductive technology helping to enhance the efficiency of network system management, leakage control and reading of water meters remotely.

M-Bus (Meter-Bus) is a European standard (EN 13757-2 physical and link layer, EN 13757-3 application layer) for the remote reading of meters. The M-Bus interface is made for communication on two wires, making it very cost effective. The M-Bus was developed to fill the need for a system for the networking and remote reading of meters.

M-Bus Communication Module Standard Outputs			
Part No.	Compatible Meters	Cable Length	Wiring Data
PR6M	V200, V210, C4000*	2 M	Brown / White
PR7M	H4000, S2000, C4000**, C4200**	5 M	Connections are not polarity sensitive

* Low flow by-pass meter ** High flow main meter

M-Bus Protocol Standard EN 13757	
Transfer Speed	300 and 2400 Baud
Addressing	Primary and secondary with wildcard
Supported Function	FCB-bit, SNK_NKE, REQ_UD2, SND_UD, RSP_UD
Telegram	Long and short switchable
Software	MBCONF Freeware
Write Protection	For important settings
Content	13 x Monthly volume with date 13 x Flow rate maximum values with date 13 x Leakage alarms Due date volume Date and time Alarm signals - battery - manipulation with date - backflow with date Pulse Value Momentary flow rate l/h or m ³ /h Flow rate calculation 1 min to 60 mins Back flow volume Decimal place

Additional Data	
Power Supply	Remote power supply from the M-Bus with automatic changeover to battery if the bus fails. 3.6V Lithium Battery (7-14 years life)
Environment	Indoor or outdoor use
IP Class	IP68
Operational Temp	-15°C to 70°C
Humidity Range	Up to 100%
Closed Circuit M-Bus	Typically 1.4mA, 1.5mA max. (1 standard load)
Bus Operation	1.5mA (1 standard load), no battery load
Space (0 Bit)	Standby current + typically 13mA
M-Bus Interface	TI TSS721 with 2 x 2150Ω protective resistor

Please Note : Always check compatibility with your equipment supplier



Water Meter & Valve Insulation Jackets



Part No. V100-1-JACKET - Fits 15mm to 25mm V100 Elster Kent Water Meter

Part No. V100-2-JACKET - Fits 30mm to 40mm V100 Elster Kent Water Meter

Part No. V200-1-JACKET - Fits 15mm V200 Elster Kent Water Meter

Part No. V210-1-JACKET - Fits 40mm Manifold V210 Elster Kent Water Meter

Frost Damage Protection

Every winter thousands of water meters and valves freeze causing irreversible damage leading to costly leaks, interruptions to the water supply and the subsequent need to replace the damaged equipment. These insulating jackets offer a simple and cost effective solution that will help to prevent frost damage.

Heat Lost

These jackets offer an energy efficient system designed to prevent heat loss from exposed valves, flanges and ancillary equipment. Each cover's sturdy, multi-layered construction provides years of energy and cost savings, as well as personal protection from burn-related injuries.

Features & Benefits

- Unique one-piece design and Velcro® closures enable easy installation, removal and reuse.
- Identification label allowing customer to add meter or valve details.
- Cost and energy savings.
- Personnel and environmental protection.
- Water-proof materials.
- Bespoke insulation jackets can be manufactured to your exact requirements, please contact sales for more details.

FC / FB

Brass
BSP Threaded



The Elster FC/FB screwed oil meters provide an accurate, reliable and economical way of obtaining all the information a user needs to control oil usage and energy costs. The meters handle a wide range of viscosity's, for a variety of on-shore and off-shore applications including checking and totalising fuel for burners, furnaces and diesel engines, recording draw off from storage tanks and recording general usage.

These meters are available with a optional factory fitted pulse output incorporated within the register.

Features & Benefits

- Accuracy of $\pm 1\%$
- Marine approvals on request
- Vibration resistant
- Can be installed in any position
- Suitable for different grade oils
- Optional pulse output facility

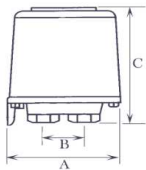
Pressure & Temperature

Maximum pressure

FC - 24 bar
FB - 16 bar

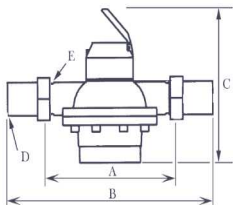
Maximum temperature

FC - 60°C
FB - 130°C



Part No. FC

SIZE	A	B	C	D (BSP)	Weight (Kg)
FC4	65	23	79	1/8	0.65
FC8	65	23	79	1/4	0.75

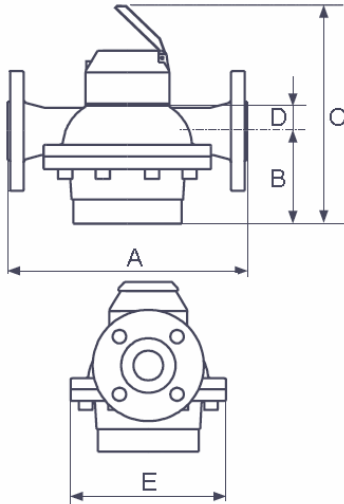


Part No. FB

SIZE	A	B	C*	C* (Reed Pulse)	C* (Inductive Pulse)	D (BSP)	E (BSP)	Weight (Kg)
FB15	165	260	180	210	260	1/2	3/4	2.5
FB20	165	260	210	220	270	3/4	1	3
FB25	190	305	220	240	290	1	1 1/4	5

* Refers to dimension with lid open

SPECIFICATIONS		FC4	FC8	FB15	FB20	FB25
MAX CONTINUOUS FLOW RATE	l/h	50	135	400	1000	2000
MIN CONTINUOUS FLOW RATE	l/h	1	4	10	30	75
MAX OVERLOAD FLOW RATE	l/h	80	200	600	1500	3000
STARTING FLOW (APPROXIMATE)	l/h	0.5	1.6	4	12	30
BUILT IN SAFETY STRAINER MESH WIDTH	mm	0.08	0.10	0.25	0.40	0.40
PULSE OUTPUT (REED)	litre/pulse	0.1/1	0.1/1	1/1	1/1	1/1
PULSE OUTPUT (INDUCTIVE)	litre/pulse	-	-	0.01/1	0.01/1	0.01/1
LIGHT & MEDIUM GRADE HEATING OIL		✓	✓	✓	✓	✓
HEAVY GRADE HEATING OIL		x	x	x	✓	✓
DIESEL FUEL OIL		✓	✓	✓	✓	✓



FA
Cast Iron
Flanged PN16



The Elster FA flanged oil meters provide an accurate, reliable and economical way of obtaining all the information a user needs to control oil usage and energy costs. The meters handle a wide range of viscosity's, for a variety of on-shore and off-shore applications including checking and totalising fuel for burners, furnaces and diesel engines, recording draw off from storage tanks and recording general usage.

These meters are available with a optional factory fitted pulse output incorporated within the register.

Features & Benefits

- Accuracy of $\pm 1\%$
- Marine approvals on request
- Vibration resistant
- Can be installed in any position
- Suitable for different grade oils
- Optional pulse output facility
- Flanges drilled to BS4504 PN16

Pressure & Temperature

Pressure range:-

16 bar

Temperature Range:-

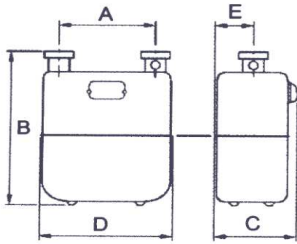
130°C

SIZE	A	B	C*	C* (Reed Pulse)	C* (Inductive Pulse)	D	E	Weight (Kg)
FA15	165	45	180	210	260	20	105	2.5
FA20	165	54	210	220	270	20	105	3
FA25	190	77	220	240	290	24	130	5
FA40	300	116	310	340	360	37	210	21
FA50	350	166	375	390	410	43	280	40

* Refers to dimension with lid open

SPECIFICATIONS	DN	15	20	25	40	50
MAX CONTINUOUS FLOW RATE	l/h	400	1000	2000	6000	20000
MIN CONTINUOUS FLOW RATE	l/h	10	30	75	225	750
MAX OVERLOAD FLOW RATE	l/h	600	1500	3000	9000	30000
STARTING FLOW (APPROXIMATE)	l/h	4	12	30	90	300
BUILT IN SAFETY STRAINER MESH WIDTH	mm	0.25	0.40	0.40	0.60	0.60
PULSE OUTPUT (REED)	litre/pulse	1/1	1/1	1/1	10/1	10/1
PULSE OUTPUT (INDUCTIVE)	litre/pulse	0.01/1	0.01/1	0.01/1	0.1/1	1/1
LIGHT & MEDIUM GRADE HEATING OIL		✓	✓	✓	✓	✓
HEAVY GRADE HEATING OIL		×	✓	✓	✓	✓
DIESEL FUEL OIL		✓	✓	✓	✓	✓

BK
Steel
Diaphragm Type
BSP Threaded



The Elster BK range of diaphragm meters are suitable for a wide range of domestic, commercial and industrial applications.

All meters are of steel construction with internal and external surfaces coated against corrosion, and are designed for natural, liquid petroleum and manufactured gases. The meters comply with the requirements of EN1359, and can be used for either primary or secondary metering.

Meters can be fitted with a low frequency reed pulse output which can easily be fitted on site without disturbing the calibration seal or interrupting the gas supply.

Features & Benefits

- Requirements to EN1359
- Suitable for primary and secondary metering
- Swivel nuts for easy fixing.
- Corrosion resistant
- Optional pulse output facility

Pressure & Temperature

Maximum pressure:-
Up to 500 mbar.
Fireproof (HTB) up to 100 mbar

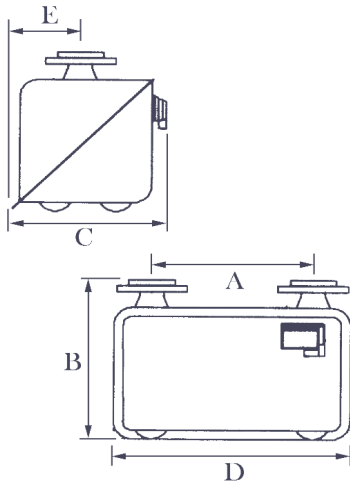
Temperature range
Gas -20°C to 50°C.
Ambient -30°C to 60°C.

MODEL	STANDARD	FLOW RANGE	ACCURACY	TURNDOWN
BK-G4 to BK-G25	EC 71/318	Qmin to 2 Qmin 2 Qmin to Qmax	+/- 3% +/- 2%	160 : 1
BK-G4 to BK-G25	OILM	Qmin to 0.1 Qmin 01 Qmax to Qmax	+/- 3% +/- 1.5%	160 : 1

MODEL	METER CONNECTION	OPTIONAL NUT & LINER	FLOW RANGE ACTUAL m³/h		DIMENSIONS					PULSE OUTPUT
			Qmin	Qmax	A	B	C	D	E	m³/pulse
BK-G4 (110)	1" BS746	3/4" BSPT	0.04	6	110	214	157	194	67	1/100
BK-G4 (152)	1" BS746	3/4" BSPT	0.04	6	152.4	262	163	226	71	1/100
BK-G6	* Special	1" BSPT	0.06	10	250	320	218	334	85	1/100
BK-G10	1 1/4" BS746	1 1/4 BSPT	0.1	16	152.4	341	219	264	100	1/10
BK-G16	2" BS746	2" BSPT	0.16	25	250	351	234	405	108	1/10
BK-G25	2" BS746	2" BSPT	0.25	40	280	420	289	465	138	1/10

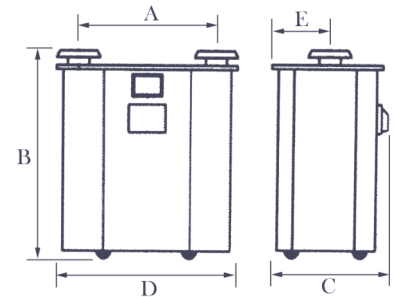
* The BK-G6 meter comes with a European thread and is supplied with a nut & liner as standard

PRESSURE DROP (ΔP) WITH NATURAL GAS										
MODEL	Flow m³/h	ΔP mbar	Flow m³/h	ΔP mbar	Flow m³/h	ΔP mbar	Flow m³/h	ΔP mbar	Flow m³/h	ΔP mbar
BK-G4 (110)	1.2	0.5	2.4	0.5	3.6	0.7	4.8	1.0	6	1.4
BK-G4 (152)	1.2	0.3	2.4	0.3	3.6	0.4	4.8	0.7	6	1.0
BK-G6	2	0.3	4	0.4	6	0.6	8	0.8	10	1.1
BK-G10	3	0.3	6	0.3	10	0.4	13	0.7	16	1.0
BK-G16	5	0.3	10	0.4	15	0.6	20	1.2	25	1.9
BK-G25	8	0.3	16	0.3	24	0.5	32	1.0	40	1.6



65mm & 80mm Fig BK

BK
Steel
Diaphragm Type
Flanged PN16



100mm Fig BK

The Elster BK range of diaphragm meters are suitable for a wide range of domestic, commercial and industrial applications.

All meters are of steel construction with internal and external surfaces coated against corrosion, and are designed for natural, liquid petroleum and manufactured gases. The meters comply with the requirements of EN1359, and can be used for either primary or secondary metering.

Meters can be fitted with a low frequency reed pulse output which can easily be fitted on site without disturbing the calibration seal or interrupting the gas supply.

Features & Benefits

- Requirements to EN1359
- Suitable for primary and secondary metering
- PN16 Drilling
- Corrosion resistant

Pressure & Temperature

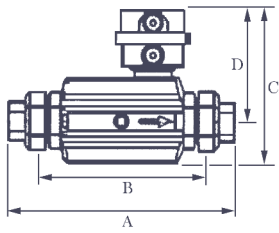
Maximum pressure:-
Up to 500 mbar.
Fireproof (HTB) up to 100 mbar

Temperature range
Gas -20°C to 50°C.
Ambient -30°C to 60°C.

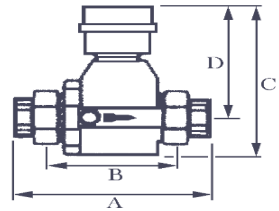
MODEL	STANDARD	FLOW RANGE	ACCURACY	TURNDOWN
BK-G40 to BK-G100	EC 71/318	Qmin to 2 Qmin 2 Qmin to Qmax	+/- 3% +/- 2%	160 : 1
BK-G40	OILM	Qmin to 0.1 Qmin 0.1 Qmax to Qmax	+/- 3% +/- 1.5%	160 : 1

MODEL	METER CONNECTION	FLOW RANGE ACTUAL m³/h		DIMENSIONS					PULSE OUTPUT m³/pulse
		Qmin	Qmax	A	B	C	D	E	
BK-G40	65mm PN16	0.40	65	335	470	392	564	175	1/10
BK-G65	80mm PN16	0.65	100	430	460	392	630	161	1/10
BK-G100	100mm PN16	1.00	160	430	605	571	740	280	1/1

PRESSURE DROP (ΔP) WITH NATURAL GAS										
MODEL	Flow m³/h	ΔP mbar	Flow m³/h	ΔP mbar	Flow m³/h	ΔP mbar	Flow m³/h	ΔP mbar	Flow m³/h	ΔP mbar
BK-G40	13	0.3	26	0.4	39	0.7	52	1.0	65	1.6
BK-G65	20	0.3	40	0.4	60	0.7	80	1.0	100	1.6
BK-G100	32	0.3	64	0.4	96	0.6	128	1.0	160	1.6



SIZE: Rc1



SIZE: Rc1 1/2

QA & QAe

Aluminium
Quantometer Turbine Type
BSP Threaded



Elster Quantometers are highly reliable gas meters which meet the highest standards. By using the quantometers in production and heating processes, it is possible to control flow of gas precisely and therefore optimise the use of energy.

The QA and QAe quantometers work on the principle of the rotating turbine wheel. The rotation of the turbine wheel is proportional to the volume of the flowing gas.

The QA quantometers are fitted with a 7-digit mechanical totaliser which registers the volume in cubic meters.

The QAe quantometers are fitted with an electronic totaliser. Besides the normal registration of the total volume, the QAe can also display the flow rate, the volume of a key day and the date of the key day.

Meters are supplied with E1 plug for low frequency pulse output as standard, An optional E200 high frequency pulse output is available on request.

Features & Benefits

- DVGW - approved
- Compact
- High reliability & standards
- Optional pulse output facility
- Suitable for various gases
- Self-lubricating bearings ensure maintenance free operation.

Pressure & Temperature

Maximum pressure:-
16 bar

Temperature range:-

Gas -10°C to 60°C
Ambient (QA) -20°C to 70°C
Ambient (QAe) 0°C to 50°C

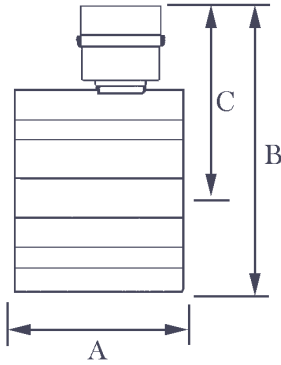
MODEL	FLOW RANGE	ACCURACY	TURNDOWN
QA10 to QA40	Qmin to 0.2 Qmin 0.2 Qmin to Qmax	+/- 3% +/- 1.5%	20 : 1

MODEL	SIZE BSP FEMALE	FLOW RANGE ACTUAL m ³ /h		DIMENSIONS				PULSE OUTPUT m ³ /pulse	
		Qmin	Qmax	A	B	C	D	E1 Low Frequency	E200 High Frequency
QA10	Rc1	1.6	16	240	185	132	90	1/10	1/500
QA16	Rc1	2	25	240	185	132	90	1/10	1/500
QA25	Rc1	2.5	40	240	185	132	90	1/10	1/500
QA40	Rc1	3.3	65	240	185	132	90	1/10	1/500
QA40	Rc1 1/2	5	65	190	125	185	135	1/1	1/250

PRESSURE DROP (NATURAL GAS 21 mbar LINE PRESSURE)											
MODEL	Flow m ³ /h	ΔP mbar	Flow m ³ /h	ΔP mbar	Flow m ³ /h	ΔP mbar	Flow m ³ /h	ΔP mbar	Flow m ³ /h	ΔP mbar	
QA10	1.6	0.01	6	0.2	10	0.7	13	1.3	16	2.1	
QA16	2	0.01	10	0.7	15	1.8	20	3.4	25	5.5	
QA25	2.5	0.05	16	0.8	25	1.6	32	2.5	40	3.8	
QA40 (DN25)	3.3	0.07	25	1.6	40	3.8	52	6.2	65	9.5	
QA40 (DN40)	5	0.01	25	0.4	40	1.2	52	2.2	65	3.6	

QA & QAe

Aluminium Quantometer Wafer Type PN16



Elster Quantometers are highly reliable gas meters which meet the highest standards. By using the quantometers in production and heating processes, it is possible to control flow of gas precisely and therefore optimise the use of energy.

The QA and QAe quantometers work on the principle of the rotating turbine wheel. The rotation of the turbine wheel is proportional to the volume of the flowing gas.

The QA quantometers are fitted with a 7-digit mechanical totaliser which registers the volume in cubic meters.

The QAe quantometers are fitted with an electronic totaliser. Besides the normal registration of the total volume, the QAe can also display the flow rate, the volume of a key day and the date of the key day.

Meters are supplied with E1 plug for low frequency pulse output as standard, An optional E200 high frequency pulse output is available on request.

Features & Benefits

- DVGW - approved
- Compact
- High reliability & standards
- Optional pulse output facility
- Suitable for various gases
- Self-lubricating bearings ensure maintenance free operation.

Pressure & Temperature

Maximum pressure:-
16 bar

Temperature range:-
Gas -10°C to 60°C
Ambient (QA) -20°C to 70°C
Ambient (QAe) 0°C to 50°C

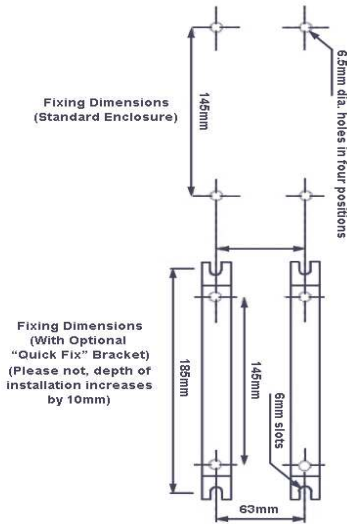
MODEL	FLOW RANGE	ACCURACY	TURNDOWN
QA65 to QA650	Qmin to 0.2 Qmin 0.2 Qmin to Qmax	+/- 3% +/- 1.5%	20 : 1

MODEL	SIZE	FLOW RANGE ACTUAL m ³ /h		DIMENSIONS			PULSE OUTPUT m ³ /pulse	
		Qmin	Qmax	A	B	C	E1 Low Frequency	E200 High Frequency
QA65	2" Wafer	5	100	60	185	135	1/1	1/250
QA100	3" Wafer	10	160	120	225	150	1/1	1/187.5
QA160	3" Wafer	13	250	120	225	150	1/1	1/187.5
QA250	4" Wafer	20	400	150	260	210	1/1	1/187.5
QA400	6" Wafer	32	650	180	300	190	1/1	1/187.5
QA650	6" Wafer	50	1000	180	300	190	1/1	1/187.5

PRESSURE DROP (NATURAL GAS 21 mbar LINE PRESSURE)										
MODEL	Flow m ³ /h	ΔP mbar	Flow m ³ /h	ΔP mbar	Flow m ³ /h	ΔP mbar	Flow m ³ /h	ΔP mbar	Flow m ³ /h	ΔP mbar
QA65	6	0.02	40	1.3	60	3.0	80	5.4	100	8.5
QA100	10	0.01	65	0.2	100	0.5	130	0.9	160	1.4
QA160	13	0.01	100	0.5	150	1.2	200	2.3	250	3.7
QA250	20	0.05	160	0.9	240	1.7	320	2.8	400	4.1
QA400	32	0.04	260	0.6	390	1.1	520	1.7	650	2.5
QA650	50	0.07	400	1.2	600	2.2	800	3.5	1000	5.2

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Chatterbox Intrinsically Safe Opto-Isolation Unit



The Chatterbox-e unit provides the necessary safety isolation between equipment generating pulses in the hazardous area and non intrinsically safe equipment located in the safe area.

Opto-isolators provide four isolated volt-free contacts from low frequency pulses generated by Gas Meters or Volume Correctors installed in the hazardous area.

Chatterbox-e operates from a self contained power supply lasting in excess of 10 years and is therefore suitable for installation in remote and difficult environments without the need for an external power supply.

The unit comprises of four independent circuits that transform high impedance pulses, or volt-free contact closures into isolated volt-free contact closures. One input can be connected to up to 4 isolated output circuits by using internal switches.

Inputs

Each input is designed to interface with the current 'sinking' pulse outputs from the ROOTS® Micro Corrector. The input will also interface directly with a volt-free contact closure, i.e., directly to a gas meter. Contact de-bouncing as standard.

Outputs

Each output is a 220ms pulse, current sinking output capable of accepting up to 20V, 130mA.

Enclosure

Weatherproof aluminium enclosure IP66 (equivalent to: NEMA 4x) rated suitable for wall or panel mounting.

Size: 160mm Wide x 120mm High over glands x 62mm Deep

Intrinsic Safety

BASEEFA 05 ATEX 0429 II(1) G [EEx ia] IIC.

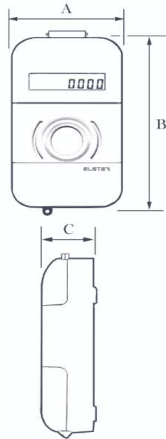
The Chatterbox-e **must** be installed in the safe area and is suitable for connection to equipment in hazardous areas Zone 0, 1 or 2.

Power Supply

Two 1/2AA Lithium cells giving an estimated life in excess of 10 years based on all four channels operating and an input frequency of <1 Hz from a volume converter.

Features & Benefits

- 10 Year battery life from standard cells; two 1/2 AA lithium
- 4 Channels as standard
- Channel selections via switches
- Two output glands as standard promotes ease of installation when more than one system is to be connected to the Chatterbox-e
- ATEX Certified Intrinsic Safety
- Weatherproof cast aluminium housing rated to IP66 (equivalent to NEMA 4x) offers flexibility of installation
- Compliance to UK Institute of Gas Engineers. Editions 1 & 2 "Electrical Connections to Gas Meters" and USA Article 500 of the National Electrical Code, ANSI/NFPA-70 (NEC)"
- Opto-Isolation increases reliability and reduces power consumption
- Simple mechanical and electrical installation
- Single or multiple outputs from single input
- No Corrector or Meter setting required. As soon as the Chatterbox-e receives a pulse, a 220ms isolated output pulse is generated



T210

Elster Honeywell Remote LCD Display Pulse Counter Totaliser



The Elster T210 Scancounter is a cost effective, remote wall counter, specifically designed to display an accurate meter reading in LCD form and can be installed in a location easily accessed by the meter reader. It is particularly useful in situations where access to the meter is prohibited or restricted.

The unit will count and store pulses from a pulse enabled meter. It can be factory (or in-field with the Elster PSR140) set to display the meter reading in full billable units, eg m³, Cu ft and various other units of measurements.

Features & Benefits

- CE marked
- Accurate high integrity pulse counting
- Long battery life
- Leak and tamper detection
- Supports bi-directional pulse outputs

Configuration Data	
No. of Digits on Display	4 to 8
Scale Factor	1 to 2000
Meter Serial Number	Programmable 10 Alpha Numeric
Initial Meter Reading	Pre-set (or on-site with PSR140 unit)
Leak Monitor	Yes
Tamper	Non Usage, Wire Cut Magnetic Suppression
Units	Cubic Meters, Litres, Imperial Gallons, US Gallons, Cubic Feet, Kilo Litres
Inputs	Reed Switch Pulse, Open Collector Pulse

Electrical Data	
Power Source	3.6V Lithium Battery
Max Input Frequency	40Hz
Mark-Space Ratio (Worst Case)	12-75% (Reed Switch) 30-70% (Open Collector)
Low Pass Cut Frequency	12.5Khz
Software Watchdog	1 Second

Additional Data	
Ambient Temp Range	-30°C to 70°C
Water Proofing	Electronics - IP67, Terminal - IP44
Humidity Range	Up to 95% RH
Housing	High impact polycarbonate
Dimensions	A - 70mm, B - 120mm, C - 38mm

Display Symbols & Functions



Pulse Input

The presence of a pulse is indicated by this symbol.



Tamper Detection (if icon is enabled)

A) Security - This covers interference or failure of the pulsed output, cable or terminals. The internal tamper flag is set only if the terminal state is different to the initial stored state, which is sampled at ½ hour intervals.

B) Suppression - This covers possible magnetic suppression of the meter pulse module (or by-passing the meter). This flag is set only if the T210 has not received any pulse in the proceeding 30 days



Leak Detection (if icon is enabled)

The internal leak flag is set only if the T210 has received at least one pulse from the meter in the previous consecutive forty-eight ½ hour periods. The presence of a leak is indicated by this symbol.



Low Battery

Low battery is reported electronically, and is indicated by this symbol.

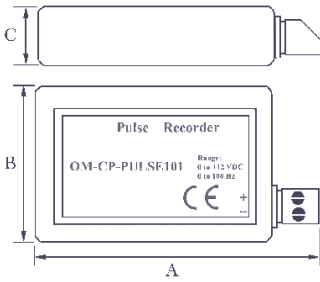


Unit of Measurement

Display can be set in to display unit to match meter register.

101A

Pulse Data-Logger



Part No. 101A - BASIC UNIT

Part No. IFC200 - SOFTWARE & USB CABLE (Optional)

Part No. WATERBOX101A - IP65 RATED ENCLOSURE (Optional)

The 101A is a low-cost recording device that will sense a pulse input or contact closure from external sources such as transducers or pulse initiators (gas, water, and electric meters) and transform those inputs into engineering units.

In addition, this data logger allows the user to store user defined units such as litres/min into the device as well as scale factors and offset values. This enables the user to easily linearize and scale any transducer that provides a pulse or contact closure output to any user required units automatically.

Once activated the data logger senses and records the number of pulses/contact closures that occur within adjacent "time bin" periods. The bin period is selectable from 1 second to over 24 hours. At the end of each bin period, the total number of pulses/counts within the bin period is recorded.

The data logger then starts another bin period and continues until either the memory is full or the test period has ended. Its real time clock ensures that all data is time and date stamped. This is ideal for recording events.

The storage medium is non-volatile solid state memory, providing maximum data security even if the battery becomes discharged. Its small size allows it to fit almost anywhere. Data retrieval is simple. Plug it into an empty USB port and the easy-to-use software does the rest.

The software converts your PC into a real time strip chart recorder. Data can be printed in graphical or tabular format and can be exported to a text or Microsoft Excel file.

FUNCTIONS	
Reading Rate	1 reading every second to 1 every 24 hours
Start Modes	Immediate start Delay start up to 18 months Multiple push button stop/start
Multiple Start/Stop Mode	Start and stop the device multiple times without having to download data or communicate with a PC
Memory	500,000 readings; software configurable memory wrap 250,000 readings in multiple start/stop mode
Memory Wrap Around	Yes (software selectable)
Real-Time Recording	The device may be used with PC to monitor and record data in real-time
LED Functionality	Green LED Blinks: 10 second rate to indicate logging; 15 second rate to indicate delay start mode Red LED Blinks: 10 second rate to indicate low battery and/or full memory; 1 second rate to indicate an alarm condition
Password Protection	An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password
Engineering Units	Native measurement units can be scaled to display measurement units of another type. This is useful when monitoring outputs from different types of sensors such as flow rate, wind speed and more

SPECIFICATIONS	
Time Accuracy	±1 minute/month at 20°C
Input Connection	Screw terminal
Maximum Pulse Rate	10 KHz
Input Range	0 to 30V DC
Input Low	<0.4V
Input High	>2.8V
Internal Weak Pull-Up	<60 µA
Input Impedance	>60 KΩ
Pulse Width	≥10 microseconds (min)
Battery Type	3.6V Lithium replaceable
Battery Life	Typically 10 years
Ambient Temp Range	-40°C to 80°C
Humidity Range	Up to 95% RH non-condensing
Dimensions	A - 64mm B - 36mm C - 16mm

IFC200 - SOFTWARE & CABLE DATA (OPTIONAL)	
Software Compatibility	Windows XP SP3, Vista, 7 & 8 (32 & 64-bit)
Connection	USB
Cable Length	3.7 M
Baud Rate	115,200

WATERBOX101A - WATERPROOF ENCLOSURE DATA (OPTIONAL)	
Water Proofing	NEMA 4 - IP65
Material	Black anodized aluminium
Dimensions	Width 148mm, Height 74mm, Depth 39mm

Ensemble

**Wireless Remote Display
868MHz M-BUS
For use with Elster Hybrid
Water Meters**



The Ensemble remote display gives users instant data of their water consumption. Suitable for residential and small commercial environments. It measures consumption to the nearest litre and up to 1 million litres a month.

The unit receives data from water meters that communicate with the Wireless M-Bus protocol at 868MHz including the Elster V200H and V210H Hybrid water meters.

Real Time Flow

The unit will display near real time flow in litres/min as derived from the meter. The display gives a graphical and animated representation of the flow via the drips coming from the tap. The number of drips is proportional to the flow.

Consumption

The unit will display consumption with readout for "budget" and "used" in both cost and volume units. Graphically, the amount of water consumed is shown by the level in the container (it also overflows and shows puddles on the ground if too much water is used). The user can select from today, yesterday, this week and last week. The user can ask the unit to show the cost of consumption for the month, quarter and year on the upper readout.

Budget performance

The bottom part of the display predicts if the user is going to be within or exceed their allowance/budget at the end of the day or week.

Fault Alarms

A yellow triangle is used to alert the user to the following fault conditions: Dry, Burst, Leak, Reverse Flow

Features & Benefits

- CE Marking
- Mains powered, no battery required
- Clear and easy to read display
- Table top or wall mounted
- Can support up to 4 water meters
- 4 buttons interface

Display symbols & functions



Displays your latest and historic water consumption in litres and money



Shows usage against a budget, with coloured fish indicating how well you are doing. Seasonally adjusted



Displays a warning alert if there is a leak, or supply issue due to abnormal flow



The tap and drips shows your real time flow rate



Keeps track of hot and cold water consumption if multiple water meters are present



It makes water meter readings easier

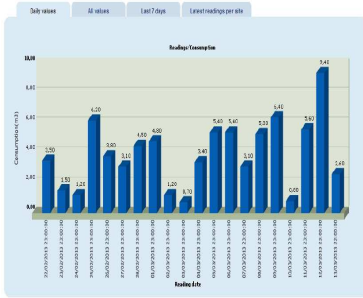


Stopwatch button gives the option to measure consumption/cost during a set time period

Technical Specifications	
Dimensions	145mm x 75mm x 35mm
Display	Passive Matrix Vertically Aligned (PMVA) Negative, Transmissive, Backlight
Power Consumption	0.5W
Power Supply	230V 50Hz Transformer
Radio	Wireless M-Bus Protocol at 868MHz Modes T1, T2, S SL, R (all channels), C1, C2
Range	Line of sight >100m
Data Storage	2 Months at 15 Minutes Resolution
Update	Minimum Interval 12.5 Seconds
IP Rating	IP20 Indoor Use Only
Ambient Temp Range	0 to +40°C

E-Log

Elster Metering (Honeywell) Emeris E-Log GSM/GPRS Logger Remote Meter Reading Package



The Emeris Log solution allows you to precisely monitor the consumption of a water meter 24 hours a day. It is easy to install and involves no costly IT projects.

The solution comprises the eLog datalogger and a data collection visualization software solution.

It offers an array of options for effective management, control and analysis. The user can easily access metering data and events, from leak warnings or anomalous consumption, through to analysis of the correct meter sizing.

Cost efficiency

- Cost-efficient logging solution for all meter sizes
- No investment in IT infrastructure

Simple and convenient

- Easy installation and configuration of the device with no need for specialised knowledge
- Fixed communications costs, with no extra data costs
- Available in most locations in the world with GPRS coverage
- Software as a Service model for overall simplicity & convenience

Secure

- IT security: application servers and databases located in a secure, controlled environment
- Communications security: non-removable e-SIM cards paired with secure private network

Advanced monitoring

- Control of the meter health and fraud detection
- Better informed and updated customer service
- Ability to provide added value services to the customer
- Better support to network behaviour monitoring

Web portal

The Emeris Log data management solution is delivered as online software, which does not require any setup in the customer premises. Data is securely kept and managed so it can be accessed from anywhere with an internet connection, by a user with a web browser and secure password.

The portal can displays all data in Excel format for further manipulation. Information is shown both in tabular and graphical manner. The status of the meters and anomalies are presented to the user, including leak detection and abnormal consumption.

TRANSMITTER SPECIFICATIONS

Dimensions	94mm x 94mm 57mm
Antenna	Internal tri-band 900/1800/1900 GPRS
Battery	14.5 Ah
Operating Temperature	-15 to +65°C

Features & Benefits

- Ultra low power design (>12 years life monthly transmission)*
- IP68, resistant to water and dust
- Compatible with Elster PR6, PR7 and reed switches
- GSM/GPRS class 10
- Internal, non-removable e-SIM card
- Remote firmware 'over the air' upgrades
- Remote configuration tools
- Delivery of accumulated consumptions histograms & self-diagnosis
- Configurable frequency of data delivery
- Network Time Synchronisation
- Data-logging capabilities (info is stored until database delivery)

* reduces to 5 years with daily transmission regime

How does it work?



The eLog device is connected to the pulse output of the meter.



The eLog reads the meter periodically and logs the reading values in internal memory.



Periodically the eLog transmits the logged data to a central data centre.



The user can then access all data through a dedicated, secure web portal.



The eLog can also provide daily maximum and minimum flows, as well as alerts such as potential leak, burst and low battery level.

Homerider

GSM/GPRS Logger Remote Meter Reading Package

HOMERIDER SYSTEMS



By means of using fixed radio and GSM networks the range of Homerider Automatic Meter Reader (AMR) systems enables users to remotely read meters and detect leakages. This can significantly reduce costs as no manual readings need to be gathered on site and early detection of leaks and over consumption helps save water, energy and the environment.

Fusion & WaterSPY System

WaterSPY is a solution for the monitoring of individual and small to medium water networks offering a comprehensive range of services to ensure SUSTAINABILITY for the duration of the monitoring.

Hardware

WaterSPY uses the latest HOMERIDER technology as part of a comprehensive solution for water management and billing. The key components of WaterSPY are:

TRAK module which is attached to the meter and which wirelessly communicates via low power radio to the Call Rider Hub.

- ◆ A pulse sensor or probe suitable for use on the meter to be connected
- ◆ A Call Rider Hub which is a mains connected device using GSM Mobile network to communicate with central servers and which receives the low power radio transmissions from the TRAK modules.
- ◆ A suitable SIM, usually on a 2 year fixed contract.
- ◆ Repeaters, which extend the range of the low power radio communications between the TRAK module and the Call Rider Hub.

Software

WaterSPY uses the HOMERIDER Fusion network. Data is transmitted on a daily basis to the HomeRider services and made available through the Fusion web-site or as a daily data file depending upon requirements.

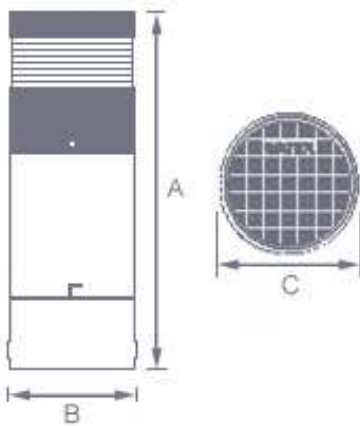
The data file is provided through FTP and a semi-colon delimited file suitable for inserting into other systems.

Fusion provides an easy-to-use interface for the management of water data on a portfolio, site or individual meter basis. It is password controlled and can be made available to as few or as many users as required. Fusion also provides Alarm and Alert management features to identify early stage issues such as excessive consumption, backflow, etc.

Services

Comprehensive services to ensure installations are successful and remain working. There are four levels of service:

- ◆ **Base** – Provision of a data file on an annual basis. No access to Fusion or monitoring.
- ◆ **Standard** – Access to data via Fusion. Limited warranty support. Basic Help Desk support and limited warranty.
- ◆ **Premiere** – As Standard, advice on setting up Fusion for alarms & alerts. Extended warranty. Advanced Help Desk.
- ◆ **Premiere Plus** – As Premiere with monitoring of the network and fix on fail of supplied components.



AJUSTA

Adjustable Height
Single Meter Port
Boundary Box



The Elster AJUSTA Single manifold meter boxes are buried, usually in pavements and walk ways. They are very competitively priced and are the most reliable box on the market, offering massive operational savings by having the least number of dig-outs and re-instatements.

AJUSTA meter boxes have unbeatable adaptability in the field, they have a screw down height adjustment range of 210mm allowing them to fit varying service pipe depths without sacrificing rigidity or the need to cut the guard tube on site.

The standard box has 25mm PE tails that allows for either compression fitting or reliable electro fusion jointing of either new or existing pipe work thus negates the requirement for "make-up" sections, which reduces potential leak paths.

Push-fit options are also available in 20mm or 25mm, ideal for new installations or to reduce installation costs via fewer fittings without compromising risk of leakage.

Features, Benefits & Approvals

- Pressure rated up to 16 bar
- Class 2RD (non-watertight, rigid tube)
- Complies WIS No. 4-37-01 & DWI regulation 25
- WRAS approved (wetted parts)
- 5 tonnes load bearing capability
- Integral stopcocks & non-return (check) valves
- Excellent visibility and access to both the meter and valve is provided by the surface box lid
- The most reliable box on the market – offers massive operational savings by having the least number of dig-outs and re-instatements and associated issues with the new Traffic Management Act

Contaminated Land Boxes (ADJUSTA-CON-3/4 Only)

For use in sites where the ground could be contaminated. These boxes are 100% leak tested so that groundwater cannot ingress into the chamber and are supplied with 3/4" BSP Male connections.

	Pipe Connections	Meter Connections	Stop Valve	Check Valve	A (min)	A (max)	B	C	Weight (kg)
ADJUSTA-25-S	25mm PE Tails 150mm long								
ADJUSTA-PF-25	25mm Push-fit for PE Pipe	1 1/2 BSP Concentric	Screw Down	Single	590	800	200	200	5
ADJUSTA-PF-20	20mm Push-fit for PE Pipe								
ADJUSTA-CON-3/4	3/4" BSP Male								

V210 Elster Water Meter (Optional)

The Elster V210 volumetric water meter is designed to be installed into a manifolds, boundary and meter boxes that have coaxial concentric connections

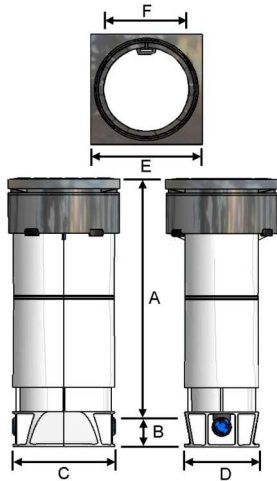


QTA0167 Installation Key (Optional)

Designed for the easy installation and removal of V210 Elster water meters in boundary boxes.



Meters are not supplied with any Boundary Boxes and must be ordered separately



JV050004
Matrix
Adjustable Height
Single Meter Port Boundary Box
c/w Isolation and Non-Return Valve
25mm & 32mm
Push Fit Connections



The JV050004 Matrix single manifold meter boxes are buried, usually in pavements and walk ways. The box offers great flexibility and versatility.

It is telescopic allowing for easy and precise adjustment. The moulded, two piece telescopic chamber greatly reduces the risk of ground water getting into the system through any seals or joints. This means that the water reader is less likely to encounter a chamber that is full of water.

The small, stable footprint of the boundary box makes it easy to install in congested trenches and requires minimal excavation. The round surface box has a removable square flange that makes correct back filling easy. The surface box flange can also be rotated 360° and the surface box has up to 8° of tilt making alignment with paving materials and gradients simple.

Features	Specifications
Frame & Cover	Universal 8° tilt. Pluck lid. Square swivel plate with lid tether. Glass Filled Polypropylene
Guard Tube Material	Mineral Filled Polypropylene
Guard Tube Profile	Stadium profile with 173mm x 116mm opening
Frost Protection	As standard in accordance with WIS 4-37-01
Shut Off Device	¼ turn with long key
Non Return Valve	In accordance with WIS 5-11-01
Manifold	Raised style; Plastic (Acetal Co-Polymer)
Meter Connection	1½" BSP concentric meters up to Qn 2.5m³/h
Head Loss	< 3 metres @ 25 l/min flowrate with meter
WRAS Approved	All the materials used in the box that come into contact with water are WRAS listed
Bearing Load	Grade C load bearing according to WIS 4-37-01 - Capacity of over 20 kN
Pressure Rating	Up to 16 bar
Lid	Marked 'WATER' and incorporates metal detector plate
Blanking Plugs	Full Flow (supplied as standard), Trickle Flow (optional), No Flow (optional)

PE Pipe Connection	Meter Connections	A (min) *	A (max) *	B	C	D	E	F	Weight Kg
25mm Push Fit	1½ BSP Concentric	480	870	35	208	151	225	173	4.5
32mm Push Fit	(Meter not supplied)								

* Including 50mm final height adjustment in surface box and 25mm guard tube

V210 Elster Water Meter (Optional)

The Elster V210 volumetric water meter is designed to be installed into a manifolds, boundary and meter boxes that have coaxial concentric connections



QTA0167 Installation Key (Optional)

Designed for the easy installation and removal of V210 Elster water meters in boundary boxes.





BB1M
Atlas
Adjustable Height
Multi Meter Port
Boundary Box



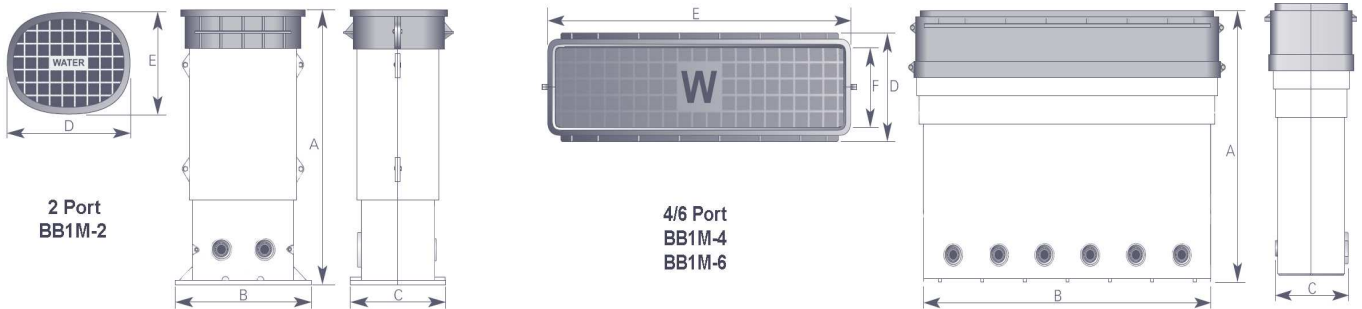
The BB1M Multi manifold meter boxes are buried, usually in pavements and walk ways.

The box offers great flexibility and versatility. It is telescopic allowing for easy and precise adjustment. The moulded, two piece telescopic chamber greatly reduces the risk of ground water getting into the system through any seals or joints. This means that the water reader is less likely to encounter a chamber that is full of water.

The small, stable footprint of the boundary box makes it easy to install in congested trenches and requires minimal excavation. The outlets on the box have an 'eye ball' angular adjustment to help installation in congested trench conditions

Features, Benefits & Approvals

- Pressure rated up to 12 bar
- Complies WIS No. 4-37-01 & BS5834 Part 2
- WRAS approved (wetted parts)
- Loading to BS5834 Part 2 Grade C
- 3 tonnes load bearing capability
- Integral stopcocks & non-return (check) valves



	Inlet Pipe Connections	Outlet Pipe Connections	Meter Connections	Stop Valve	Check Valve	A (min)	A (max)	B	C	D	E	F	Weight (kg)
2 Port BB1M-2	32mm Push-fit for PE Pipe	2 x 25mm Push-fit for PE Pipe	2 x 1½ BSP Concentric	Screw Down	Single	550	870	350	270	370	220	-	13
4 Port BB1M-4	2" BSP Female	4 x 25mm Push-fit for PE Pipe	4 x 1½ BSP Concentric	Screw Down	Single	410	780	720	190	200	750	720 x 180	43
6 Port BB1M-6	2" BSP Female	6 x 25mm Push-fit for PE Pipe	6 x 1½ BSP Concentric	Screw Down	Single	410	780	720	190	200	750	720 x 180	43

V210 Elster Water Meter (Optional)

The Elster V210 volumetric water meter is designed to be installed into a manifolds, boundary and meter boxes that have coaxial concentric connections



QTA0167 Installation Key (Optional)

Designed for the easy installation and removal of V210 Elster water meters in boundary boxes.



Single Boundary Boxes are also available

Meters are not supplied with any Boundary Boxes and must be ordered separately