

GKM Helix 4000 Woltmann cold water meters

The GKM Helix 4000 is a Woltmann-type meter designed for measuring bulk flows of cold potable water for revenue billing in commercial or industrial applications and distribution system monitoring.

Key features

- Inductive register for improved output performance and security
- Extended low and high flow performance
- Suitable for forward and reverse flow metering
- Robust shroud and copper can register for long-life and clear readability
- Longer wear life for optimum accuracy
- Exceeds Class B specification in forward direction and for sizes up to 150mm in reverse direction

Available in ten sizes for flow rates between 0.35 m³/h and 2000 m³/h, the GKM Helix 4000 operates at temperatures up to 50°C and a maximum working pressure of 16 bar. Accuracy maintained in both forward and reverse flow, and the product offers the benefits of inductive-based pulse communications technology. The meter complies with all relevant international quality standards, substantially exceeding ISO4064 BS5728 Class B specifications for forward flow installations in horizontal, vertical inclined pipelines.

Reverse flow metering

Available in sizes up to 150mm, reverse flow metering aids network management and ensures accuracy in revenue billing applications.

Robust construction

Like all Elster meters, the GKM Helix 4000 is manufactured from the highest quality materials for maximum resistance to wear and corrosion. Meter body and cover are epoxy powder coated for protection in all environments. Thrust pads and stub spindles are manufactured in tungsten carbide and jewelled rotor bearings are used for maximum wear life. All wetted materials are UK WRAS approved against health risk.

Flexible installation

Installation can be in horizontal, vertical and inclined pipelines. The GKM Helix 4000 also achieves good performance in abnormal installations.

Intelligent metering

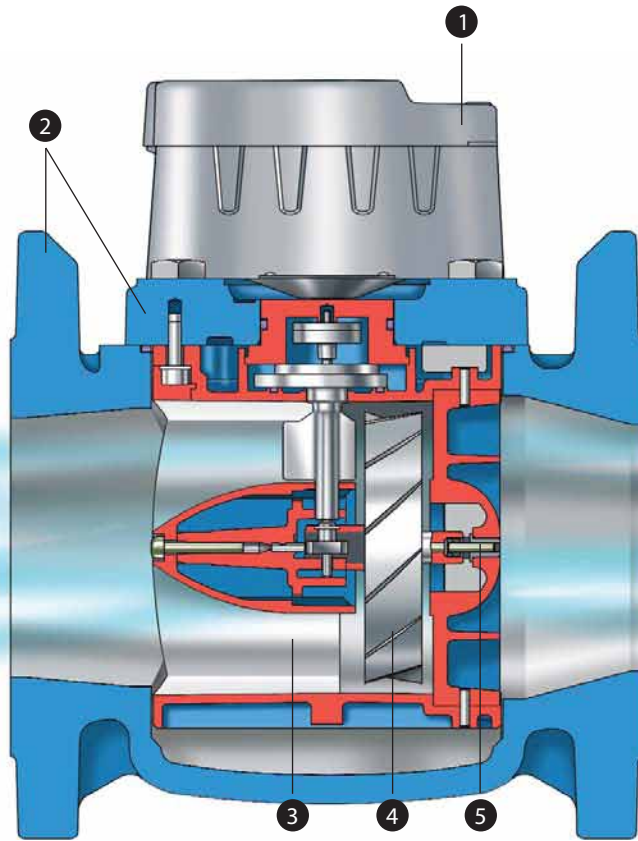
Fully compatible with Elster's Emeris range of intelligent meter reading systems, GKM Helix 4000 can provide even more vital management information to assist with effective distribution management, reduce water losses from leakage and improve customer service. When combined with the Emeris TRC600 unit (pictured below), a range of intelligent features including leakage alarms, data logging and tariffs enables a complete metering system that addresses the efficiency objectives for water providers.



Reliable connectivity

The GKM Helix 4000 uses an inductive register to deliver enhanced communications performance and tamper-proof security, offering protection against fraud. The GKM Helix 4000 is compatible with the Emeris PR7 inductive pulse transmitter, and offers both high and low speed bi-directional pulse capabilities as standard. The PR7 is fully compatible with other common ancillary devices including data loggers and AMR systems.

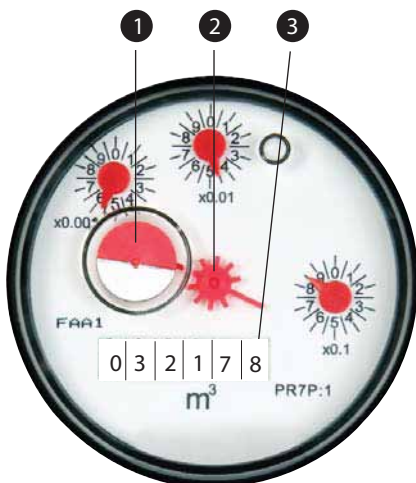
When used in conjunction with GKM Helix 4000's optional integrated pressure port, this allows convenient logging of flow-rate and pressure simultaneously for effective water resource management.



C&I inductive register

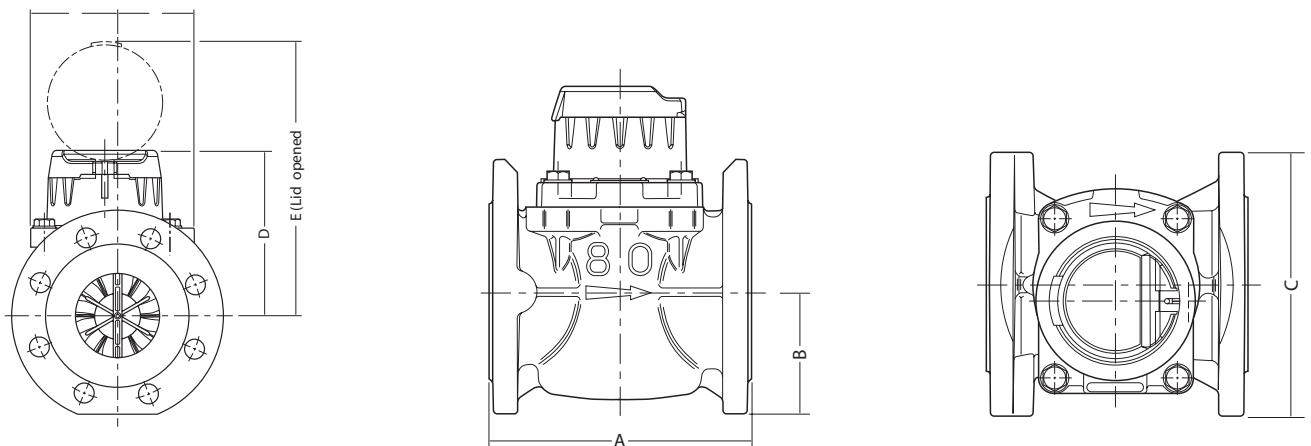
- 1 Inductive target for bi-directional pulse communications
- 2 Star tell-tale for easy-to-see flow detection
- 3 Easy to read display – 6 figure display for sizes 40mm to 125mm, 7 figure display for sizes 150mm to 300mm

- 1 Tamper-proof shroud and robust lid
- 2 Epoxy powder coated body and cover
- 3 Maximum length flow straightening vanes
- 4 Low mass rotor with hydrodynamic thrust relief
- 5 Hard surface rotor bearings – tungsten carbide and synthetic sapphire



H4000 Performance (forward flow)												
Meter Size		mm	40	50*	65	80*	100*	125	150*	200	250	300
Overload flow	qs±2%	m³/h	90	90	120	200	250	250	600	1000	1600	2000
Permanent flow	qp±2%	m³/h	50	50	65	120	180	180	450	700	1000	1500
Transitional flow	qt±2%	m³/h	1	1	1.5	2	2	2	4	6	11	15
Minimum flow (horizontal)	qmin±5%	m³/h	0.35	0.35	0.4	0.5	0.6	0.6	1.8	4	6	12
Minimum flow (vertical)	qmin±5%	m³/h	0.45	0.45	0.75	1.2	1.2	1.2	4.5	7.5	12	18
Starting flow (approximately)		m³/h	0.15	0.16	0.17	0.22	0.25	0.25	0.90	1.2	1.8	1.8
Headloss at maximum flow		bar	0.84	0.49	0.69	0.27	0.43	0.58	0.33	0.32	0.37	0.58
Maximum registration		millions of m³	1	1	1	1	1	1	10	10	10	10
Maximum water temperature		°C	50	50	50	50	50	50	50	50	50	50
Maximum working pressure		bar	16	16	16	16	16	16	16	16	16	16

Standard ISO4064/BS5728/EEC specification Class B												
Overload flow	qs±2%	m³/h	-	30	50	80	120	200	300	500	800	1200
Permanent flow	qp±2%	m³/h	-	15	25	40	60	100	150	250	400	600
Transitional flow	qt±2%	m³/h	-	3	5	8	12	20	30	50	80	120
Minimum flow	qmin±5%	m³/h	-	0.45	0.75	1.2	1.8	3	4.5	7.5	12	18
Headloss at maximum flow		bar	-	0.05	0.12	0.04	0.10	0.37	0.10	0.10	0.09	0.21
Headloss class		bar	-	0.10	0.30	0.10	0.10	0.60	0.10	0.10	0.10	0.30

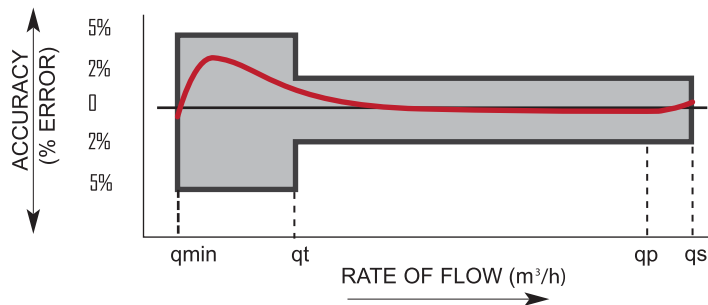


Dimensions												
Meter size	mm	40	50	65	80	100	125	150	200	250	300	
Overall length (ISO) (A)	mm	300	200/300	200/300	200/350	250/350	250	300/500	350	450	500	
Overall length (Kent) (A)	mm	311	311	-	413	483	-	-	520	-	-	
Height (B)	mm	78	78	86	94	106	118	135	165	198	225	
Height (D)	mm	148	148	148	159	159	159	206	228	246	246	
Height (E)	mm	236	236	236	247	247	247	294	316	334	334	
Flange Diameter (C)	mm	151	166	186	201	228	251	286	341	409	461	
Weight (ISO)	kg	11.8	12.2/13.1	13/14.4	14.1/16.6	19.4/21	20.5	37.5/43.5	47.5	82	104	
Weight (Kent)	kg	12	13.3	-	17.6	23.6	-	-	54	-	-	

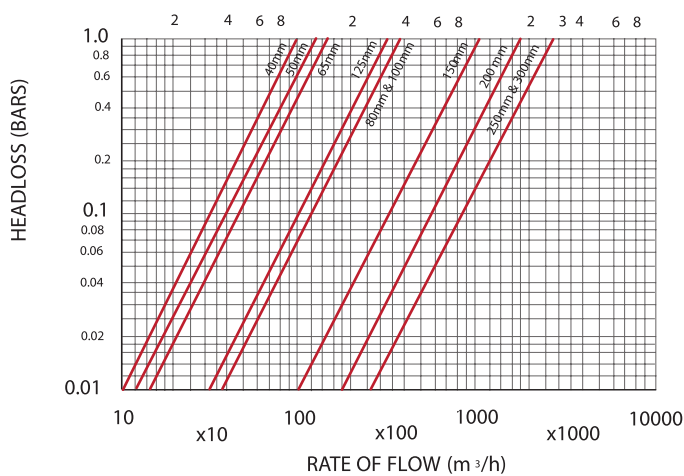
Accuracy Curve, Headloss Curve and Pulse Connectivity shown overleaf.

* Strainer available as option for these sizes

Typical Accuracy Curve



Typical Headloss Curve



Pulse Connectivity

Calculating Pulse Weights when fitted with PR7 inductive pulser

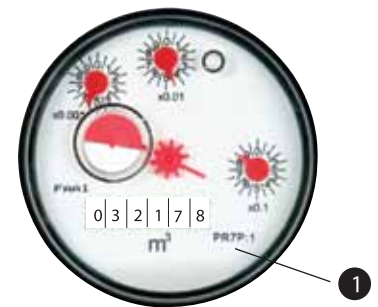
Pulse Weight is calculated by multiplying the Register 'Pulse Factor' (P) by the PR7 'K-Factor' (K)
 Pulse Weight (Litres per Pulse) = P x K

Size	Pulse Factor	K1	K10	K100	K1000
40mm	P:1	1 ltr	10 ltrs	100 ltrs	1,000 ltrs
50mm	P:1	1 ltr	10 ltrs	100 ltrs	1,000 ltrs
65mm	P:1	1 ltr	10 ltrs	100 ltrs	1,000 ltrs
80mm	P:1	1 ltr	10 ltrs	100 ltrs	1,000 ltrs
100mm	P:1	1 ltr	10 ltrs	100 ltrs	1,000 ltrs
125mm	P:1	1 ltr	10 ltrs	100 ltrs	1,000 ltrs
150mm	P:10	10 ltrs	100 ltrs	1,000 ltrs	10,000 ltrs
200mm	P:10	10 ltrs	100 ltrs	1,000 ltrs	10,000 ltrs
250mm	P:10	10 ltrs	100 ltrs	1,000 ltrs	10,000 ltrs
300mm	P:10	10 ltrs	100 ltrs	1,000 ltrs	10,000 ltrs

PR7 is an open collector pulse transmitter suitable for data logging, AMR and telemetry equipment. Check with your equipment supplier for full details of compatibility.

Pressure equipment directive 97/23/EC.

This product is applicable in networks for the supply, distribution and discharge of water and associated equipment and is therefore exempt.



- On this example 50mm GKM Helix 4000 register, the user can identify from the dial plate both the:
 - Type of pulser to use ie PR7
 - Pulse Factor ie P:1



- On the PR7 unit the user can identify from the label the K-Factors for each output channel
- Primary Output K-Factor
- Secondary Output K-Factor

Approval Certificate



“ It is highly recommended to install GKM Helix 4000 Strainer before the bulk water meter to protect the meter. This functions as a filter to prevent solid objects in the pipe from damaging the meter.”



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The Company policy is one of continuous improvement and the right is reserved to modify the specifications without prior notice