Honeywell
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Water Metering



H4000

Accurate, robust metering

Woltmann cold water meters

H4000 Woltmann cold water meter

The H4000 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.

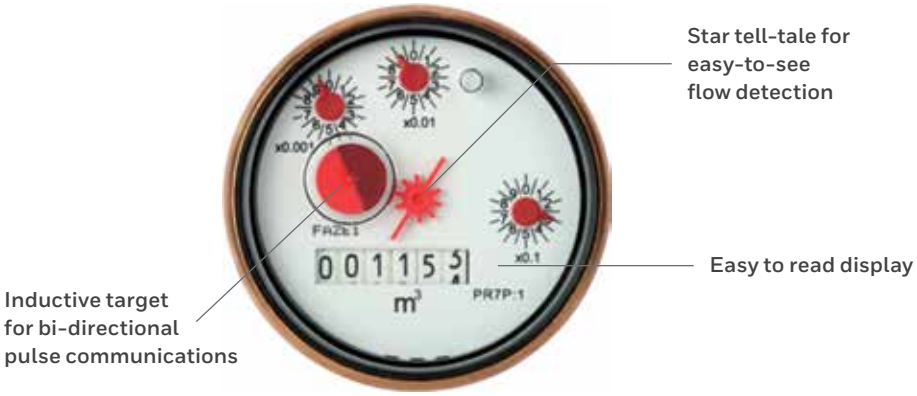
Available in ten sizes for flow rates between 0.35 m^3/h and 2000 m^3/h, the H4000 operates at temperatures up to 50°C and a maximum working pressure of 16 bar. Accuracy is maintained in both forward and reverse flow, and the product offers the benefits of inductive-based pulse communications technology. The meter is approved to the European Directive 2014/32/EU. It can be installed in horizontal, vertical and inclined pipelines.

Intelligent metering

Fully compatible with a range of intelligent meter reading systems, H4000 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 TRC600 unit, 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.







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

Robust construction

The H4000 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

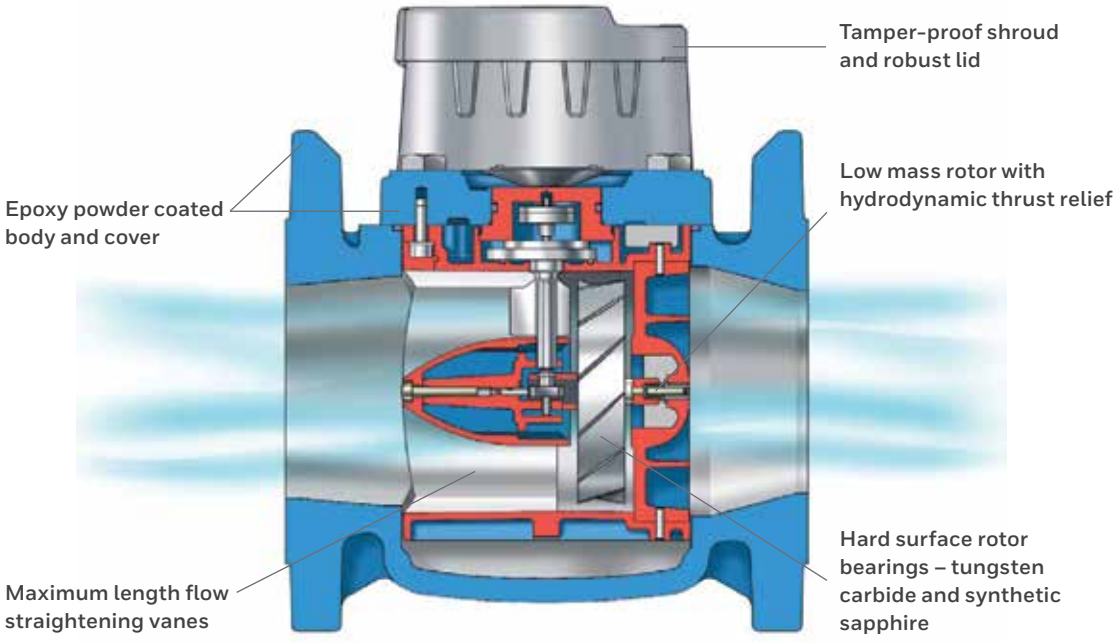
Installation can be in horizontal, vertical and inclined pipelines. The H4000 also achieves good performance in abnormal installations.

Reverse flow metering

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

Reliable connectivity

The H4000 uses an inductive register to deliver enhanced communications performance and tamper-proof security, offering protection against fraud. The H4000 is compatible with the 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 H4000's optional integrated pressure port, this allows convenient logging of flow-rate and pressure simultaneously for effective water resource management.



H4000

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Product specification

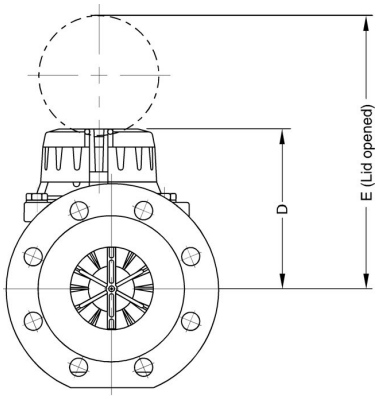


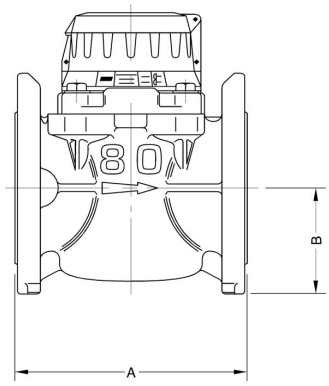
H4000 PERFORMANCE (FORWARD FLOW)

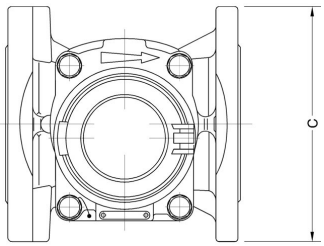
METER SIZE (mm)	FLOW	UNITS	40	50	65	80	100	125	150	200	250	300
OVERLOAD FLOW RATE	qs±2%	m^3/h	90	90	120	200	250	250	600	1000	1600	2000
PERMANENT FLOW RATE	qp±2%	m^3/h	50	50	65	120	180	180	450	700	1000	1500
TRANSITIONAL FLOW RATE	qt±2%	m^3/h	1	1	1.5	2	2	2	4	6	11	15
MINIMUM FLOW RATE (HORIZONTAL)	qmin±5%	m^3/h	0.35	0.35	0.4	0.5	0.6	0.6	1.8	4	6	12
MINIMUM FLOW RATE (VERTICAL)	qmin±5%	m^3/h	0.45	0.45	0.75	1.2	1.2	1.2	4.5	7.5	12	18
STARTING FLOW (APPROXIMATELY)		m^3/h	0.15	0.16	0.17	0.22	0.25	0.25	0.9	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 m^3	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

MEASURING INSTRUMENTS DIRECTIVE 2014/32/EU

METER SIZE		mm	40	50	65	80	100	125	150	200	250	300
OVERLOAD FLOW RATE	Q4	m^3/h	79	79	79	200	200	200	500	787.5	1250	2000
PERMANENT FLOW RATE	Q3	m^3/h	63	63	63	160	160	160	400	630	1000	1600
TRANSITIONAL FLOW RATE	Q2	m^3/h	0.81	0.81	1.6	2.05	2.05	2.05	5.12	8.06	12.8	20.48
MINIMUM FLOW RATE	Q1	m^3/h	0.5	0.5	1	1.28	1.28	1.28	3.2	5.04	8.0	12.8
TURNDOWN RATIO R	Q3/Q1	R value	125	125	63	125	125	125	125	125	125	125
HEADLOSS AT Q3	ΔP	bar	0.39	0.24	0.19	0.18	0.18	0.24	0.15	0.12	0.15	0.37







Dimensions and weights

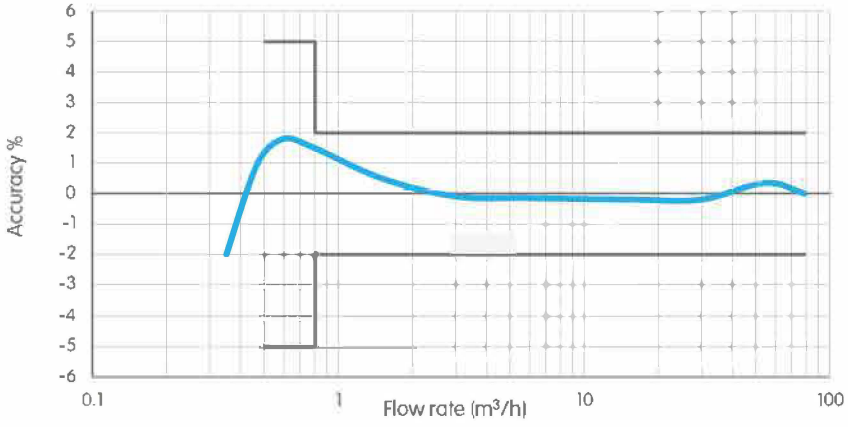
Meter size (mm)		40	50	65	80	100	125	150	200	250	300
Overall length (ISO) (A)	mm	300	200/300	200/300	200/350	250/350	250	300/500	350	450	500
Overall length (Kent) (A)	mm	311	311	–	413	483	–	–	520	–	–
Height (B)	mm	78	78	86	94	106	118	135	165	198	225
Height (D)	mm	142	142	142	153	153	153	200	222	240	240
Height (E)	mm	250	250	250	261	261	261	308	330	348	348
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.

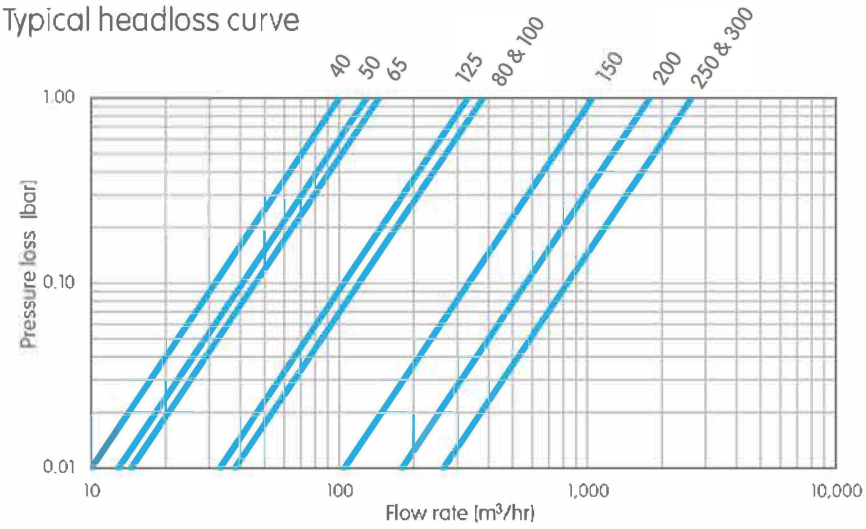
H4000



Typical accuracy curve (DN50 example)



Typical headloss curve





1 On this example 50mm register, the user can identify both the;
- type of pulser to use, i.e. PR7
- pulse factor, i.e. P:1

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 (DN)	Pulse Factor	K 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 the PR7 unit the user can identify the K-factors for each output channel:

2 Primary output K-factor, i.e. 1

3 Secondary output K-factor, i.e. 100

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