
Class 1 heat meters

– who needs it and why?

- Technical background?
- Economical background?

Technical background?

There are cases where a heat meter is used for

- pure technical supervision
- monitoring the guaranteed efficiency of a heat pump
- ...

and a class 1 meter is wanted.

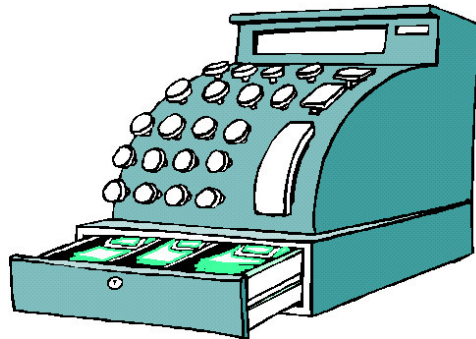
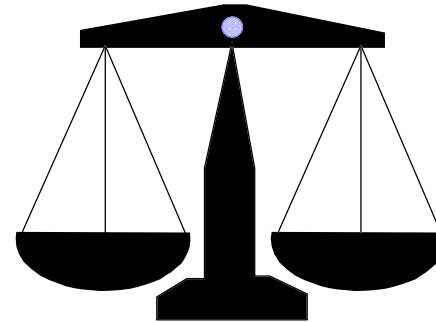
This is however in most cases outside the legal metrology

How accurate do you want the bank
to count your money?

- when paying your bills?
- when registering your salary?



How accurate do you want
the shop to measure



what you are buying?

How inaccurate do you accept that a filling station measures the petrol for your car?

How inaccurate do you accept that a utility supplier measures the electricity, the water, the gas and the heating for your home?

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The maximum permissible error mentioned in the MID at normal consumption levels

Cold potable water 2 %

Gas 1 - 3 %

Electricity 1 - 3,5 %

Petrol 0,5 - 1,5 %

Heat 3 - 4 % *including class 1: 2 - 4 %*

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What explanation shall we give the heat consumer to the fact, that he must accept less accuracy than the consumer of other utilities?

The costs for the used energy compared to the cost of the energy meter

	Yearly energy consumption		M eter size	M eter cost	
	M W h	€	m ³ /h	€	in % of yearly consumption
Single family house	20	700	1	110	16
Flat 70 m ²	10	350	0,7	110	31
House with 10 flats	100	3 500	2	150	4
House with 100 flats	1000	35 000	15	450	1,3
Large building	7000	245 000	100	1500	0,6

The energy price mentioned here is not the total price, only the part priced per M W h

I think that both the district heating company and the consumer want to have a class 1 heat meter for the large installations, where the cost for the heat meter is very low compared with the price for the measured energy.

But even for the case with the single family house I have got reports from Holland where they want to use a class 1 meter

They have given me following figures:

Σ Energy cost pro year: € 600:-

Σ 1 % additional measuring error over a meter lifetime of 8 years means € 48:-

Σ The additional cost for a class 1 meter is reported to be € 22:-

There is a market for class 1 heat meters!

Meter suppliers report that
they are prepared to deliver class 1 meters.

Are there laboratories prepared to make

- (initial) verifications of class 1 flow sensors?
- type approvals of class 1 flow sensors?

and what additional cost will those services have
compared with those for a class 2 or 3 flow sensor?