

Patent NO.

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Outline

ACM series cooling/heat meters are made up of electronic integrator, radial impeller flow sensor which is designed as the patent, and pairing temperature sensor. The meter is used for measuring, calculating and recording energy in commerce and household central air-conditioning cooling and heating system where water is the heat transferring agent.

Measurement principle

Arithmetic and formula : $Q = \int_{t_0}^{t_1} q_m \Delta h dt = \int_{t_0}^{t_1} pq \Delta h dt$

Q—Releasing or absorbing quantity of heat

t—Time

qm—Mass flow of liquid flowing over in heat exchange loop

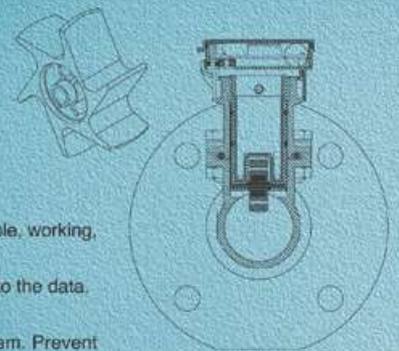
qv—Volume flow of liquid flowing over in heat exchange loop

p—The density of liquid

Δh—The difference of liquid's entrance enthalpy and export enthalpy in heat exchange loop

Standard and examination

- ◆ Executive Standard CJ128-2000 Heat Meter
- ◆ Reference Standard OIML-R75,EN1434
- ◆ Examination Regulation, JJG225-2001 Heat Meter.



Function

- **Time sharing measurement:** Measuring on 3 time zones, and take charges according to different time zones. For example, working, overtime working, and holiday. Solve the difficult problem of time sharing charge.
- **Real-time monitor:** Dynamic record the using tendency in special time. Provide reference, when the user has objection to the data.
- **Malfunction Alarm:** Alarm to remind the malfunctions of the flow meter and temperature sensor.
- **Terminal chain measurement:** Realize the chain measurement of the Fan coil units in the central air-conditioning system. Prevent the leak of the motorized valve causing measuring errors.
- **Quality guarantee on supply:** Set a beginning temperature value, when the water temperature is higher/lower than the beginning value, the cooling/heat meter does not measure and accumulate energy.
- **Cut off:** Control to cut off the power source and the water valve, when the user does not pay the related fee.
- **Power source:** The interior power source and the lithium battery supplies electricity by bi-circuit, which can continuously work for more than 6 years, and the interior historical recorded data can be preserved above 10 years.
- **Correspondence interface:** M-BUS or RS-485 interface. Provide data for the third part BMS or other collecting system.

Features

- **High pressure holding structure:** 16Kg/cm²
- **Block proof design:** Set a radial impeller on the top, preventing rubbish in pipe to jam the flow meter.
- **Magnetic proof design:** Non-magnetic ferrite sensor inside impeller, preventing solder clinker, scrap iron to be absorbed by magnetic field.
- **Long life design:** Use horniness metal steel axis and manufactured stone axletree.
- **Error correcting character:** Through correcting errors of multipoint, the error can reach the nominal lever when in the lower flow-rate.

Technical specification

Type		ACM-20	ACM-25	ACM-32	ACM-40	ACM-50	ACM-65	ACM-80	ACM-100	ACM-125	ACM-150	ACM-200	ACM-220
Size	mm	20	25	32	40	50	65	80	100	125	150	200	above 200
Flow sensor													
Nominal flow	m ³ /h	2.5	3.5	6	10	15	25	40	60	100	150	250	—
Max. flow	m ³ /h	5.0	7.0	12	20	30	50	80	120	200	300	500	—
Rated pressure	kg/cm ²	16											
Working temp.	°C	3~95											
Electronic Integrator													
Temp. range	°C	4~95											
Temp. difference range	°C	3~75											
Temp.distinguish rate	°C	0.1											
Enthalpy value		Change with the temperature											
Working condition	°C	5~55											
Display	KWh	8 digits LCD display											
Power supply		Inner li-battery can work for 6 years											
Protection class		IP65											
Temp.sensor													
Sensor type		Pt1000											
Mating accuracy	°C	0.1											
Energy accuracy class		Class3 (refer to heat meter standard energy accuracy)											

Central Air-conditioning AMR system structure diagram

