

ICS 91.140.60
CCS P 40

CJ

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

CJ 128-2007

**Heat meters
(English Translation)**

Issued on: October 15, 2007

Implemented on: April 1, 2008

Issued by: Ministry of Construction of the People's Republic of China

Table of Contents

1 Scope...	5
2 Normative References...	5
3 Terms and Definitions...	6
4 Technical characteristics...	9
5 Requirements...	12
6 Test Method...	17
7 Inspection rules...	22
8 Marking, Packing and Storage...	24
Annex A (Informative) Water density and enthalpy value...	26
Annex B (Normative) Photoelectric interface...	29

Foreword

The articles 4.2.2 4.2.4 4.2.5 4.3.2 4.3.3 and 5.1~5.12 in this Standard are compulsory ones; the rest are recommendatory.

This Standard replaces CJ-128-2000 "Heat Meters", from the implementation date.

This Standard is the revision to CJ 128-2000 "Heat Meters". This revision references to EU standard EN 1434-2007 "Heat meters". The major technical contents are consistent with EN 1434; and it is consistent with JJG 225 "Verification Regulation of heat Meters".

Compared with CJ 128-2000, the following aspects have been made to this Standard.

- Extend the flow-rate application scope of heat meter; add the requirements of the heat meter with low flow-rate and large caliber;
- Add the requirements in installation length of heat meters;
- Add the requirements in pipe network water quality;
- Add the related requirements in cooling meter;
- Add Class C environmental requirement of heat meter;
- Add the requirements in data storage;
- Add the requirements in repetitiveness;

- Raise the requirements in electromagnetic compatibility;
- Raise the requirement in water temperature of exit-factory test; specify the different water temperature conditions according to the type of heat meter in type approval test;
- Delete the change size structural styles not used in China; make significant amendment on installation drawing in the requirements in structure and installation of platinum resistance temperature sensor;
- Add the technical requirements in photoelectric interface of heat meter;
- Add the requirements in the communication protocol used in heat meter data transfer;
- Delete the technical contents in prepayment devices in Annex G in the former standard.

Annex B, Annex C, Annex D, Annex E, Annex F and Annex G in this Standard are normative; Annex A is informative.

Heat Meters

1 Scope

This Standard specifies terms and definitions, technical characteristic, requirement, test method, test rules, marking, packing, and storage of heat meters.

This Standard is applicable to heat meters of which the flowing medium is water, the temperature is 2°C~150°C, and the pressure is not larger than 2.5 MPa.

2 Normative References

The following normative documents contain provisions which, through reference in this text, constitute that provisions of this Standard. For dated reference, the subsequent amendments or revisions of these publications do not apply. Parties who reach an agreement based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. For undated references, the latest edition of the normative document referred to applies.

GB 191 Packaging - Pictorial marking for handling of goods

GB/T 2423.1 Environmental testing - Part 2. Test methods - Tests A. Cold

GB/T 2423.2 Environmental testing - Part 2. Test methods - Tests A. Dry heat

GB/T 2423.3 Environmental testing - Part 2. Test methods - Tests A. Damp heat
Steady

GB/T 2423.4 Environmental testing for electric and electronic products - Part 2.
Test method - Test Db. Damp heat, cyclic (12h+12h cycle)

GB 4208-1993 Degrees of protection provided by enclosure (IP code)

GB 4706.1 Household and similar electrical appliances - Safety - Part 1. General
requirements

GB/T 9113.1 Integral steel pipe flanges with flat face or raised face

GB/T 17626.2 Electromagnetic compatibility (EMC) - Testing and measurement
techniques - Electrostatic discharge immunity test

GB/T 17626.3 Electromagnetic compatibility - Testing and measurement
techniques - Radiated radio-frequency electromagnetic field immunity test

GB/T 17626.4 Electromagnetic compatibility - Testing and measurement
techniques - Electrical fast transient/burst immunity test

GB/T 17626.5 Electromagnetic compatibility - Testing and measurement
techniques - Surge immunity test

GB/T 17626.8 Electromagnetic compatibility (EMC) - Part 4-8. Testing and
measurement techniques - Power frequency magnetic field immunity test

GB/T 17626.11 Electromagnetic compatibility - Testing and measurement
techniques - Voltage dips, short interruptions and voltage variations immunity tests

CJJ 34 Design code of district heating network

CJ/T 188-2004 Technical requirements of utility meters data transmission

JB/T 9329 Basic environmental conditions and testing methods for instruments
transportation and storage in the transportation

3 Terms and Definitions

The following terms and definitions apply to this Standard.

3.1

Heat meter

Meter that meters and displays the heat energy that the water-flow releases or absorbs when passing heat exchange system.

3.2

Complete heat meter

Non-decomposable heat meter consisted of flow sensor, calculator and temperature sensor pair.

3.3

Combined heat meter

Heat meter consisted of flow sensor, calculator and temperature sensor pair.

3.4

Cooling meter

Heat meter that meters the cooling amount in which the fluid medium temperature is 2°C~ 30°C and the temperature difference is not higher than 20K.

3.12

Maximum temperature difference

Upper limit value of a temperature difference, under which the accuracy of a heat meter shall not exceed the error limit.

3.13

Flow-rate

Volume or mass of the heat carrier water that flows across a heat meter in unit time.

3.14

Minimum flow-rate

Lower limit of the flow-rate of water-flow that flows across a heat meter, under which the accuracy of a heat meter shall not exceed the error limit.