

ICS 27.010
CCS F01



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

GB/T 13468-2013

Replacing GB/T 13468-1992

**Measurement and calculation methods of electric energy
balance for pumped liquid transportation systems**

泵类液体输送系统电能平衡测试与计算方法

Issued on: December 18, 2013

Implemented on: July 1, 2014

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

Table of Contents

1	Scope	
2	Normative references	
3	Terms, definitions and symbols	
3.1	Terms and Definitions	
6	Energy efficiency calculation	4
7	operating efficiency determined	6
8	pump system energy and power to determine	8

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 13468-1992 "pump system power balance test and calculation methods" and GB/T 13468-1992 phase Ratio, in addition to editorial changes outside the main technical changes are as follows:

- Modify the standard name;
- Modify the scope of the standard;
- Remove the normative references GB 3216, GB 7784, GB 8916, added Normative references GB/T 1032, GB/T 12497, GB/T 16666; Chapter 3
- retained and revised the "pump system efficiency," the term, delete all other terms;
- Chapter 4, to "determine the boundaries of the system";
- Chapter 5 to "Test Requirements";
- Original Chapter 6, "Test Method", Chapter 7, "measuring instruments and precision requirements," Chapter 8, "pump system efficiency calculation Party Law, "Chapter 9," Pump Systems Energy [amount] balance calculation method "to Chapter 6," Calculation of power utilization, "Chapter 7," Run Efficiency OK "and Chapter 8," pump system energy and power of determination. "
- Removed in Appendices A and B. This standard by the National Standardization Technical Committee for Energy and Management (SAC/TC20) and focal points. This standard drafting units. China National Institute of Standardization, Shanghai Energy Efficiency Center, Hunan landscape Energy Saving Technology Co., Ltd., Tsinghua University Science, Guangzhou Zhiguang energy Ltd., Shanghai Polytechnic University, Beijing Building Technology Development Co., Ltd. The main drafters of this standard. Pan Chong Chao, Li Pengcheng Chen Haihong, Lin Ling, Zhao Yuejin, Xiayu Juan, Qin Hongbo, Qu Yingjie Xu Lidong, Wang Weihong, Liu Meng, Chen Jianhua, Bowie, Zhao, Feng Lei,

Peng Yanyan. Pump liquid delivery system power balance test And calculation method

1 Scope

GB/T 13468-2013 is the Chinese national standard on measurement and calculation methods of electric energy balance for pumped liquid transportation systems, in the field of energy and heat transfer engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 18 December 2013 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 July 2014. Classification: ICS 27.010, CCS F01. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the pump liquid delivery system (hereinafter referred to as. Pump System) power balance test and calculation related terms, definitions and symbols Determined number, the system boundaries, test requirements, calculate the energy utilization, operating efficiency is determined, as well as to determine the input power and power and so on. This standard applies to liquid transport homogeneous alternating electric drag pump system, other pumps systems can use and reference.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 1032 Test Methods for Three-phase asynchronous motor Determination of

GB/T 3214 water pump flow

GB/T 8222 General electrical equipment, energy balance

GB/T 12497 three-phase asynchronous motor economy

GB/T 13466 AC electric drive fans (pumps, compressors) system principles of economical operation

GB/T 16666 pump liquid delivery system energy monitoring

3.1 Terms and Definitions

GB/T 13466 and defined by the following terms and definitions apply to this document.

3.1.1 Pump system efficiency efficiency of pumped liquid transportation system Power and input power ratio pump system output is running.

3.2 Symbol The following symbols apply to this document. H outlet side of the pump head
m HJ pump unit power utilization H_j j-m lift station pump units When HV actual calculation
of viscous liquid transport head HY pump system power utilization KH within the range in
terms of the head by a viscous liquid water conversion factor KQ within the scope of the
viscous liquid flow in terms of water conversion factor Keta within range in terms of
efficiency by the viscous liquid water conversion factor PSCK output frequency control
device power kW