

June. 16th 2014

Heat Pump & Thermal Storage Technology Center of Japan

ISO 13612 Part1&Part2 Published

Heating and cooling systems in buildings – Method for calculation of the system performance and system design for heat pump system

WG9 “Heating and cooling system” which focus on “Heat pump system” was newly added as a new working group in ISO/TC205”Building Environment Design” in 2009. Our organization has been participating in creating international standard of the methods for calculation of the system performance and system design of heat pump and thermal storage system which is a cutting edge technology of Japan. We have worked together with the professor, institute (dealing with building) and manufacture in order to exclude the barrier of promoting this high technology in and out of Japan.

On May 6th 2014, the ISO13612 which we have been working on was finally published. This international standard consists of 2 parts.

- ① **ISO 13612-1 [Heating and cooling systems in buildings – Method for calculation of the system performance and system design for heat pump system – Part 1: Design and dimensioning]**
- ② **ISO 13612-2 [Heating and cooling systems in buildings – Method for calculation of the system performance and system design for heat pump system – Part2: Energy calculation]**

ISO13612 is an international standard applicable to heat pump for space heating and cooling, heat pump water heaters, and heat pumps with combined space heating and/or cooling and domestic hot water production.

Part1 specifies the required inputs, calculation methods, and required outputs for heat generation and standardization of the design and dimensioning of the heating and cooling systems in buildings, using heat pumps alone or in combination with other heat generators. From Japan we have offered opinion based on “Building equipment design standard”, consequently such as design and dimensioning methods of ECO Cute, VRF, PAC, RAC, Heat pump water heater, Heat recovery heat pump, Water storage and Ice storage have been described.

Part 2 provides standardization of annual energy calculation methods under steady conditions. Not only simple calculation method: Bin method (Based on constant operation HP which does not reflect part time load efficiency of inverter HP) which was proposed from Europe, but also detailed calculation method BEST program (Tool to simulates the total energy consumption in building) which was proposed from Japan was also mentioned as one of the BIN method.

Heat Pump & Thermal Storage Technology Center of Japan International & Research technology dept.
Hulic Kakigaracho BLDG 6F 1-28-5 Nihonbashi Kakigara-cho Chuo-ku, Tokyo 103-0014, Japan
Tel: +81-3-5643-2404 Fax: +81-3-5641-4501