

# ISO 13612-1:2014-05 (E)

## Heating and cooling systems in buildings - Method for calculation of the system performance and system design for heat pump systems - Part 1: Design and dimensioning

---

<b>Contents</b>	<b>Page</b>
Foreword .....	iv
Introduction .....	v
1 Scope .....	1
2 Normative references .....	2
3 Terms and definitions .....	2
4 Symbols and abbreviations .....	3
5 System design requirements .....	4
5.1 General .....	4
5.2 Heating/cooling source .....	4
5.3 Electrical supply .....	5
5.4 Heat pump system design .....	6
5.5 Positioning .....	6
5.6 Noise level .....	6
6 Dimensioning of the heat pump system .....	6
6.1 General .....	6
6.2 Methodology for sizing .....	7
6.3 Dimensioning the heat pump system for the heating period .....	8
6.4 Determination of the power of the heat pump system for the cooling period .....	12
6.5 Oversizing considerations .....	13
7 Additional design information for heat pump system .....	13
7.1 Hydraulic integration .....	13
7.2 Control of the system .....	13
7.3 Safety requirements .....	13
7.4 Operational requirements .....	14
8 Installation requirements .....	14
Annex A (informative) Heat pump technologies and design schemes .....	15
Annex B (informative) Guidelines for the design parameters of the heat pump systems using water as a heat source .....	47
Annex C (informative) Noise levels in the vicinity .....	48
Annex D (informative) Example calculations of the domestic hot water (DHW) storage size .....	49
Annex E (informative) Average daily tapping patterns for the domestic hot water production .....	51
Annex F (informative) Commissioning of the system .....	54
Bibliography .....	58