

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

Contents	Page
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