

ISO 24664:2024-11 (E)

Refrigerating systems and heat pumps - Pressure relief devices and their associated piping - Methods for calculation

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols	3
5	General	4
6	Minimum required discharge capacity for protection of parts of a refrigerating system	5
6.1	General	5
6.2	Excessive pressure caused by heat sources	6
6.2.1	External heat sources	6
6.2.2	Internal heat sources	7
6.3	Excessive pressure caused by compressors	7
6.4	Excessive pressure caused by expansion of trapped liquid	7
7	Discharge capacity of pressure relief devices	8
7.1	General	8
7.2	Discharge capacity of pressure relief valves	8
7.3	Discharge capacity of bursting discs	9
8	Pressure loss in inlet and outlet lines	10
8.1	General	10
8.2	Pressure loss in inlet line	10
8.3	Pressure loss in outlet line	11
8.4	Total pressure loss	12
8.5	Connection of outlets from several pressure relief valves to a common outlet line	12
Annex A (normative)	Values of factors and properties of refrigerants	14
Annex B (informative)	Calculation of flow areas for non-flashing and flashing liquids	21
Annex C (informative)	Example calculation for sizing pressure relief devices with corresponding pipes and fittings	24
Annex D (informative)	Relief valve outlet line when velocity is higher than speed of sound	31
Bibliography		35