

DIN EN 12178:2017-03 (E)

Refrigerating systems and heat pumps - Liquid level indicating devices - Requirements, testing and marking

Contents	Page
European foreword.....	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	5
4 List of Symbols.....	7
5 General requirements	7
5.1 Installation and operation	7
5.2 Components under pressure	8
5.3 Excessive mechanical stress.....	8
5.4 Leakage.....	8
6 Materials.....	8
6.1 Material properties	8
6.2 New materials.....	8
6.3 Using non-metallic materials.....	8
6.4 Requirements for materials to be used for pressurized parts	8
6.5 Compatibility of connections	8
6.6 Ductility	8
6.7 Brittle fracture	8
6.8 Ageing.....	8
6.9 Castings.....	9
6.10 Forged and welded components.....	9
6.11 Nuts, bolts and screws	9
6.12 Glass materials.....	9
6.13 Gasket materials.....	9
7 Design.....	9
7.1 General.....	9
7.2 Requirements for glass	9
7.3 Surface requirements	11
7.4 Corrosion protection.....	11
7.5 Inner cleanliness.....	11
8 Fitting requirements.....	11
9 Testing.....	12
10 Application	12
10.1 Liquid hammer.....	12
10.2 Frosting tubes.....	12
10.3 Liquid level indicators with magnetically operated indication	12
10.4 Maximum and minimum liquid level.....	12

11	Marking and additional information	12
11.1	General.....	12
11.2	Marking.....	13
11.3	Level indicators of nominal size DN 25 and smaller	13
12	Documentation.....	13
12.1	Documentation for level indicators.....	13
12.2	Documentation for level indicators of nominal size DN 25 and smaller	14
Annex ZA (informative) Relationship between this European Standard and the essential requirements of EU Directive 2014/68 EU of the European Parliament and of the Council of 15 May 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment aimed to be covered.....		15
Bibliography		16