ISO 14903:2025-01 (E)

Refrigerating systems and heat pumps - Qualification of tightness of components and joints

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Symbols 3

5 Test requirements 3

6 Requirements for sealed systems 7

7 Test procedures 7
7.1 General 7
7.2 Sampling 7
7.3 Test temperature 7
7.4 Tightness test 8
7.4.1 General 8
7.4.2 Tightness level control 9
7.5 Requirements for joints 10
7.5.1 Test samples 10
7.5.2 Torque 10
7.5.3 Reusable joint 11
7.5.4 Requirements for hermetically sealed joints 11
7.6 Pressure-temperature vibration tests (PTV) 11
7.6.1 General 11
7.6.2 Samples 11
7.6.3 Test equipment and arrangements 11
7.6.4 Method: Combined pressure-temperature cycle test with a separate vibration test 12
7.7 Operation simulation 17
7.8 Freezing test 17
7.9 Additional pressure test for hermetically sealed joints 18
7.10 Vacuum test 19
7.11 Compatibility screening test 19
7.11.1 General 19
7.11.2 Test fluids 19
7.11.3 Test specimens 19
7.11.4 Test setup parameters 20
7.11.5 Test procedure 20
7.11.6 Pass/fail criteria for sealing elements 21
7.12 Fatigue test for hermetically sealed joints 21

8 Test report 22

9 Information to the user 22

Annex A (informative) Equivalent tightness control levels 23

Bibliography 29