

DIN EN ISO 29461-2:2024-06 (E)

Air intake filter systems for rotary machinery - Test methods - Part 2: Filter element endurance test in fog and mist environments (ISO 29461-2:2022)

Contents	Page
European foreword	4
Foreword	5
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 Symbols and abbreviated terms	9
5 General requirements	10
6 Test conditions	10
6.1 Test air	10
6.2 Test water	10
7 Test rig and equipment	11
7.1 Test rig	11
7.2 Water spray device	12
7.3 Humidifying device	12
7.4 Water collecting groove	12
8 Qualification of test rig and apparatus	12
8.1 Pressure system test	12
8.2 Air leakage test	12
8.3 Air velocity uniformity in the test duct	12
8.4 Pressure drop of test duct with no test filter installed	12
8.5 Stability of wet environment	12
8.6 Water fog concentration and sedimentation check	13
8.7 Water tightness test with no test filter installed	13
8.8 Water droplet size distributions	13
8.9 Summary of qualification requirements	13
8.10 Apparatus maintenance	14
9 Test procedure	14
9.1 Preparation of filter to be tested	14
9.2 Initial pressure drop	15
9.3 Test procedure for water endurance performance of filter elements	15
9.3.1 General	15
9.3.2 Wet equilibrium pre-treatment	15
9.3.3 Water fog test	16
9.4 Water penetration ratio	16
10 Test report	16
10.1 General	16
10.2 Interpretation of test reports	17
10.3 Summaries of test results	17
10.4 Water fog mass and pressure drop	18
10.5 Marking	18
Annex A (informative) Resistance to air flow and water generation mass calculation	19

Annex B (informative) Water endurance test for vertical installed air filters	20
Annex C (informative) Water endurance of air filter elements without wet equilibrium pre-treatment	22
Annex D (normative) Water penetration ratio test	24
Annex E (informative) Leak detection and first water droplet detection procedure	25
Annex F (informative) Examples of completed test reports	28
Bibliography	36