

ISO 16900-1:2019-08 (E)

Respiratory protective devices - Methods of test and test equipment - Part 1: Determination of inward leakage

Contents	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Prerequisites	2
5 General test requirements	2
6 Principle	2
6.1 General	2
6.2 Choice of test agent	2
7 Human test panel	4
7.1 General	4
7.2 Test panel	5
8 Test agents	5
9 Apparatus	6
10 RPD preparation	6
10.1 General	6
10.2 Sample tubes and probe	7
10.3 Sample flow rates	11
10.4 Filtering RPD preparation	11
10.4.1 Unassisted filtering RPD with a connector in accordance with ISO 17420-3	11
10.4.2 Unassisted filtering RPD fitted with particle filters or combination filters	11
10.4.3 Unassisted filtering RPD with gas/vapour or combination filters	11
10.4.4 Assisted filtering RPD with particle filter(s) or combination filter(s)	12
10.4.5 Assisted filtering RPD with gas/vapour or combination filter(s)	12
10.5 Supplied breathable gas devices	12
10.6 Supplied breathable gas devices incorporating additional filtration facility (combined RPD)	13
11 Test methods	13
11.1 General	13
11.2 Test method 1: Sulfur hexafluoride (SF₆)	14
11.2.1 Test equipment	14
11.2.2 Calculation of leakage	17
11.3 Test method 2: Sodium chloride (NaCl)	17
11.3.1 Test equipment	17
11.3.2 Pulsed sampling -- Method 2A	22
11.3.3 Continuous sampling -- Method 2B	24
11.4 Test method 3: Corn oil aerosol	24
11.4.1 Test equipment	24

11.5	Determination of inward leakage in the ocular zone	26
12	Test report	26
13	Uncertainty of measurement	27
Annex A (normative) Application of uncertainty of measurement -- Determination of compliance ...		28
Annex B (normative) Test exercise regime		30
Annex C (informative) Material porosity test		34
Annex D (informative) Preparation and use of bivariate test panel		36
Bibliography		37