

DIN EN ISO 16852:2017-04 (E)

Flame arresters - Performance requirements, test methods and limits for use (ISO 16852:2016)

Contents

	Page
European foreword	4
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2014/34/EU concerning equipment and protective systems intended for use in potentially explosive atmospheres	5
Foreword	7
Introduction	9
1 Scope	10
2 Normative references	10
3 Terms and definitions	10
4 Abbreviated terms and symbols	14
5 Hazards and flame arrester classifications	15
5.1 Flame transmission: deflagration, stable and unstable detonation	15
5.2 Flame transmission: stabilized burning	16
6 General requirements	16
6.1 Measuring instruments	16
6.2 Construction	16
6.3 Housings	16
6.4 Joints	17
6.5 Pressure test	17
6.6 Leak test	17
6.7 Flow measurement (air)	17
6.8 Flame transmission test	17
6.8.1 General	17
6.8.2 Test mixtures	18
6.9 Summary of tests to be conducted	19
7 Specific requirements for static flame arresters	20
7.1 Construction	20
7.2 Design series	20
7.3 Flame transmission test	21
7.3.1 General	21
7.3.2 Deflagration test	21
7.3.3 Detonation test	25
7.3.4 Short time burning test	30
7.3.5 Endurance burning test	32
7.4 Limits for use	34
7.4.1 General	34
7.4.2 In-line flame arrester	35
7.4.3 Pre-volume flame arrester	35
7.4.4 Detonation flame arrester	35
7.4.5 Short time burn flame arresters	35

8	Specific requirements for liquid product detonation flame arresters.....	36
8.1	Liquid seals	36
8.2	Foot valves	36
8.3	Flame transmission test.....	37
8.4	Limits for use.....	38
9	Specific requirements for dynamic flame arresters (high velocity vent valves).....	38
9.1	General.....	38
9.2	Flame transmission tests	39
9.2.1	Low flow flame transmission test.....	39
9.2.2	Flame transmission test by opening and closing.....	40
9.2.3	Deflagration test.....	41
9.2.4	Endurance burning test.....	41
9.3	Limits for use.....	42
10	Specific requirements for hydraulic flame arresters.....	42
10.1	Equipment.....	42
10.2	Flame transmission test.....	42
10.2.1	General.....	42
10.2.2	Short time burning test.....	42
10.2.3	Deflagration test.....	43
10.2.4	Detonation test.....	43
10.3	Limits for use.....	43
11	Test of flame arresters installed on or within gas conveying equipment.....	46
11.1	General.....	46
11.2	Flame transmission test.....	46
11.2.1	General.....	46
11.2.2	Test procedure for gas conveying equipment with inlet pressure >600 hPa	48
11.2.3	Test procedure for gas conveying equipment with inlet pressure ≤600 hPa	48
12	Information for use.....	49
12.1	Instructions for use.....	49
12.2	Marking	50
12.2.1	Flame arrester.....	50
12.2.2	Flame arrester element.....	52
Annex A (normative) Flow measurement	53	
Annex B (informative) Information for selecting flame arresters.....	57	
Annex C (informative) Best practice	58	
Bibliography.....	59	