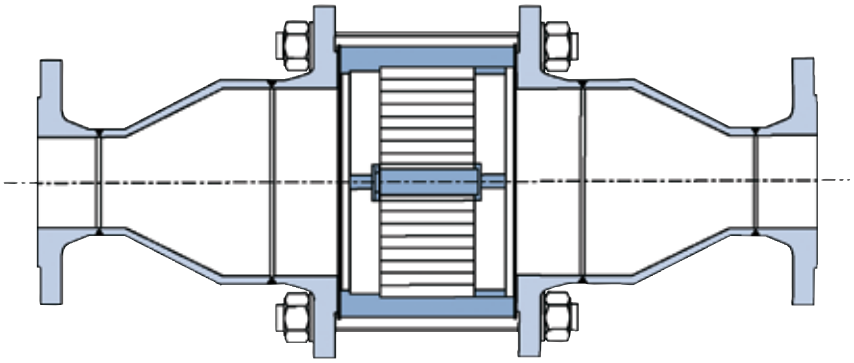
ANDERSON GREENWOOD AMAL IRDB/IRDBE FLAME ARRESTERS

In-line detonation flame arresters designed to prevent the propagation of supersonic flames



FEATURES

- Concentric or eccentric model variants available.
- Fabricated construction.
- Replaceable elements.
- Advanced crimped stainless steel element construction as standard. Other materials available.
- Can be positioned anywhere within the pipeline.
- Bi-directional.
- Designed for unstable detonation.
- Independently tested and certified.
- Manufactured to ISO 9001:2008.

GENERAL APPLICATION

The IRDB/IRDBE are used in applications with supersonic flames and mounted in process or vent lines. They are designed to handle both stable and unstable detonations.

TECHNICAL DATA

Materials:	Carbon steel, stainless steel
Sizes:	DN 15 to 600 (½" to 24")
Connections:	Threaded or flanged
Temperature range:	-20° to +165°C (-4° to +329°F)
Gas groups:	IIA, IIB1, IIB2, IIB3, IIB*, IIC*
Certification:	ATEX Directive 94/9/EC; PED 97/23/EC

* Up to and including DN 150 (6")

STABLE AND UNSTABLE DETONATION

Detonations can be stable or unstable. A detonation is stable when it progresses through a confined system without significant variations of velocity and pressure characteristics. When a detonation is unstable, the velocity is not constant and the explosion pressure is significantly higher. This occurs in a limited zone during a combustion process from a deflagration into a stable detonation. The IRDB/IRDBE are designed to handle both stable and unstable detonations.

MATERIALS AND CONNECTION OPTIONS

Materials
Carbon steel and stainless steel.

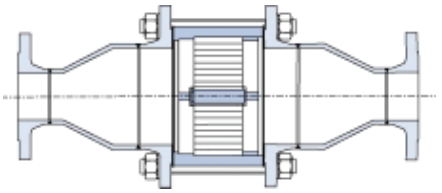
Connection pipe size
Threaded DN 15 to 80 (½" to 3")
Flanged DN 15 to 600 (½" to 24")

NOTE
Accessories, special materials and connections are available on request.

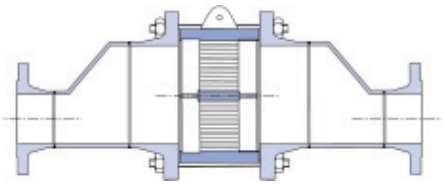
Gas groups
- IIA[1]
- IIB1[1]
- IIB2[1]
- IIB3[1]
- IIB[2]
- IIC[2,3]

NOTES
1. Multiple element design on sizes DN 250 (10") and above.
2. Only available up to and including DN 150 (6").
3. Multiple element design on DN 100 to 150 (4" to 6") sizes.

IRDB (DT VERSION)



IRDBE (DT VERSION)



TEMPERATURE RANGE

Gas group	Size range	Short burn	Max. temperature	Element
IIA	DN 12/200	Yes	-20 /+60°C	1 x 0.6/0.45 mm
IIA	DN 250/450	Yes	-20 /+60°C	2 x 0.45 mm
IIA	DN 12/200	No	-20 /+165°C	1 x 0.45 mm
IIA	DN 250/450	No	-20 /+165°C	2 x 0.45 mm
IIB1/IIB3	DN 12/150	Yes	-20 /+60°C	1 x 0.45/0.38 mm
IIB1/IIB3	DN 200/400	Yes	-20 /+60°C	2 x 0.45/3 x 0.38 mm
IIB1/IIB3	DN 12/150	No	-20 /+165°C	1 x 0.38 mm
IIB1/IIB3	DN 200/400	No	-20 /+165°C	3 x 0.38 mm
IIB	DN 12/150	Yes	-20 /+60°C	1 x 0.3 mm
IIB	DN 12/100	No	-20 /+165°C	1 x 0.3 mm
IIC	DN 12/150	Yes	-20 /+60°C	1 x 0.15/2 x 0.15 mm
IIC	DN 100	No	-20 /+165°C	2 x 0.15 mm
IIC	DN 12/80	No	-20 /+165°C	1 x 0.15 mm

NOTES
All sizing and selection must be conducted by the factory.
Standard elements are double the pipe size.

SELECTION GUIDE

Example:	IRDB	50	DT	100	76	45	S3	S3
Model								
IRDB								
IRDBE								
Connection diameter, mm (in)								
Threaded								
DN 15 to 80 (½" to 3")								
Flanged								
DN 15 to 600 (½" to 24")								
Element code								
DT								
Element diameter, mm (in)								
DN 25 to 2000 (1" to 80")								
Element width, mm (in)								
76 76 mm (3.0")								
114 114 mm (4.5")								
152 152 mm (6.0")								
190 190 mm (7.5")								
Cell height, mm (in)								
60 0.60 mm (0.024")								
45 0.45 mm (0.018")								
38 0.38 mm (0.015")								
30 0.30 mm (0.012")								
15 0.15 mm (0.006")								
Element material								
S3 Stainless steel								
C Carbon steel								
Body material								
S3 Stainless steel								
C Carbon steel								