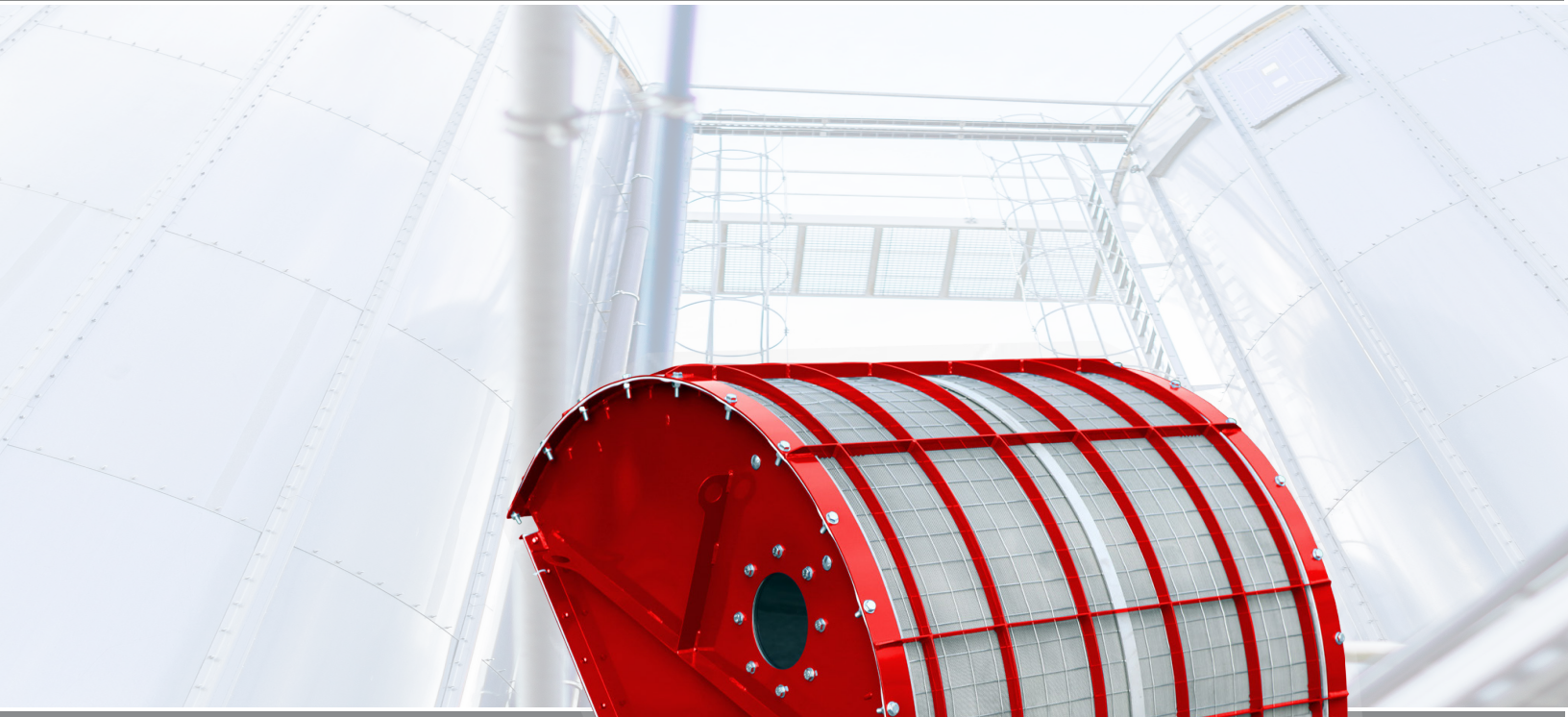




Catalog #77- 8028



# **R-IQ™ Rectangular FlameFree™ Explosion Relief Vents**

*US and International Patents pending.*



# R-IQ™ Rectangular FlameFree™ Explosion Relief Vent

US and International Patents pending.

Model (Size in mm)	Nominal Vent Size (inches)	Vent Area
<input type="checkbox"/> R-IQ 170 X 470	7 X 19	0,0785 m2 (0,845 sq ft)
<input type="checkbox"/> R-IQ 270 X 458	11 X 18	0,1220 m2 (1,315 sq ft)
<input type="checkbox"/> R-IQ 300 X 500	12 X 20	0,1480 m2 (1,595 sq ft)
<input type="checkbox"/> R-IQ 305 X 610	12 X 24	0,1840 m2 (1,980 sq ft)
<input type="checkbox"/> R-IQ 350 X 650	14 X 26	0,2250 m2 (2,425 sq ft)
<input type="checkbox"/> R-IQ 490 X 590	19 X 23	0,2865 m2 (3,084 sq ft)
<input type="checkbox"/> R-IQ 610 X 610	24 X 24	0,3695 m2 (3,975 sq ft)
<input type="checkbox"/> R-IQ 457 X 890	18 X 35	0,4040 m2 (4,349 sq ft)
<input type="checkbox"/> R-IQ 586 x 920	23 X 36	0,5360 m2 (5,770 sq ft)
<input type="checkbox"/> R-IQ 645 X 1130	25 X 44.5	0,7250 m2 (7,804 sq ft)
<input type="checkbox"/> R-IQ 920 x 920	36 X 36	0,8425 m2 (9,068 sq ft)
<input type="checkbox"/> R-IQ 1130 x 1130	44.5 X 44.5	1,2720 m2 (13,696 sq ft)

## Housing Options

- Carbon Steel (standard). Painted BS&B red.
- Stainless Steel
- Curved mounting option for cylindrical vessels
- Sanitary Weather/Dust Cover

## Housing Strength (Max Pred) Options

- 0.5 Bar (Standard) All Sizes (for Pstat = 0,1 to 0,3 bar)
- 2.3 Bar Up to R-IQ Up to size 586 x 920 (for Pstat = 0,1 to 0,5 bar) (1.85 Bar for R-IQ Sizes 645 X 1130, 920 x 920, and 1130 x 1130)

## Vacuum Resistance Options

- VSP-L (Standard) minus 20"W.C. (0.05 bar)
- VSP-D minus 80"W.C. (0.2 bar)
- VSP-HV minus 200"W.C. (0.5 bar)



Access door for vent installation and inspection.

## Vent Material Options

- 304L S/S (Standard)
- 316 S/S

## Vent panel Burst Pressure Options

- 0.1 Bar (Standard)
- Other – Specify

## Gasket Options

- Black EPDM: -40°F +176°F (-40°C +80°C)
- White Silicone FDA: -76°F +392°F (-60°C +200°C)

## Switch Options

- SEC (Standard): Burst Sensor Switch 2-wire NC circuit
- IND: Burst proximity sensor 4-wire inductive having NO and NC output

## Vent Sizing Options

- NFPA 68-2018
- EN 14491 EN 14994
- VDI 3673



## Design Advantages

- Provides a passive solution for Explosion Protection.
- Explosion Panel can be inspected via inspection door.
- Vent panel installed after housing is installed, reducing potential for damage. Installed through inspection door.
- Integral Vent Sensor (used to shutdown process).
- Flames quenched by stainless steel mesh.
- Install in most orientations.

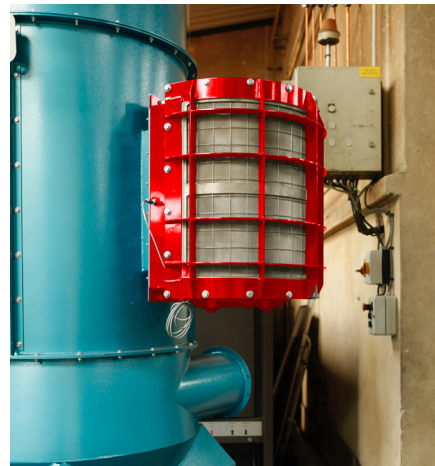
The R-IQ™ Rectangular Flamefree™ Explosion Relief Vent protects process equipment by safely releasing the rapidly expanding gases generated by a dust explosion through a stainless-steel mesh, while preventing the ejection of flame into the surrounding area. This makes it suitable for equipment, such as dust collectors, which are located inside a building. The R-IQ™ consists of an explosion panel, which seals the process equipment, and an outer housing incorporating a stainless steel mesh element. The housing is available in painted carbon steel or stainless steel for reduced explosion pressures up to 2.3 bar and includes an inspection door for inspecting the vent panels as required by NFPA 68-2018. Most importantly this inspection door also enables easy installation of the vent panel after heavier mesh housing is mechanically installed on the protected equipment. The housing option rated to 0.5 bar incorporates a convenient inspection window. The explosion panels are available for vacuum conditions from 20" w.c (0.05 bar) to full vacuum.

The R-IQ™ is certified for venting combustible dusts having Kst dust explosibility values up to 500 bar.m/s. It is suitable for a wide range of combustible dust applications requiring a passive method of protection in areas where flame retention is required. This includes installations both inside and outside where people or combustible materials are present. A discharge safety zone applies.

To ensure that the correct vent model and vent size is selected for your application, please contact BS&B for assistance.



R-IQ™ with carbon steel body 0-5 bar Pred with inspection window.



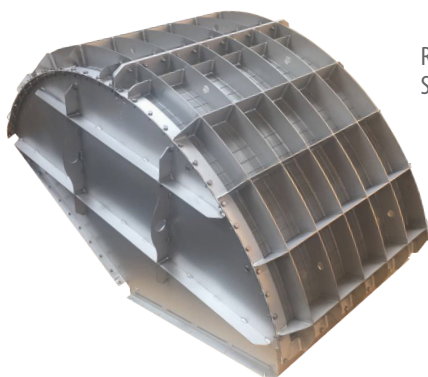
## Operating Parameters

- Kst max 500 bar.m/s
- Pmax ≤ 10 bar (145 psi)
- Pred ≤ 0.5 bar (7.25 psi), 1.85 bar (26.8 psi), or 2.3 bar (33.35) psi
- Pstat = 0.1 bar (1-1/2 psi)
- Vacuum Resistance = 0.05 bar (20" w.c.) to full vacuum according to explosion vent selected

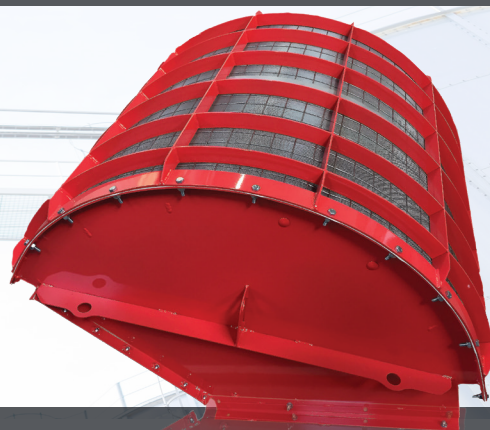
## Codes and Standards



Certified to  
EN 16009



R-IQ with Stainless Steel Body



## AMERICAS

### **Tulsa, OK USA**

T: +1 918 622 5950  
E: sales@bsbsystems.com

### **Houston, TX USA**

T: +1 713 682 4515  
E: sales@bsbsystems.com

### **Minneapolis, MN USA**

T: +1 952 941 0146  
E: sales@bsbipd.com

### **Edmonton, AB Canada**

T: +1 780 955 2888  
E: contacts@bsbprocess.com

### **Monterrey, Mexico**

T: +011 52 81 8299 5861  
E: sales@bsbsystems.com

### **Sao Paulo, Brasil**

T: +55 11 2084 4800  
E: sales@bsbbrasil.com

## EUROPE, MIDDLE EAST & AFRICA

### **Limerick, Ireland**

T: +353 61 484700  
E: sales@bsb.ie

### **Düsseldorf, Germany**

T: +49 211 930550  
E: info@bormann-neupertbsb.de

### **Manchester, UK**

T: +44 161 955 4202  
E: sales@bsb-systems.co.uk

### **Moscow, Russia**

T: +7 495 747 5916  
E: sales@bsbsystems.ru

### **The Hague, The Netherlands**

T: +31 20 399 9965  
E: info@bsbsystems.nl

### **Copenhagen, Denmark**

T: +45 3318 9000  
E: info@bsbsystems.dk

### **United Arab Emirates**

T: +971 2510 2400  
E: sales@bsbsystems.ae

## ASIA PACIFIC

### **Singapore**

T: +65 6513 9780  
E: sales@bsb.com.sg

### **Yokohama, Japan**

T: +81 45 450 1271  
E: information@bsb-systems.co.jp

### **Seoul, South Korea**

T: +82 2 2636 9110  
E: sales@bsbsystems.kr

### **Shanghai, China**

T: +86 21 6391 2299  
E: sales@bsbsystems.com

### **Chennai, India**

T: +91 44 2450 4200  
E: sales@bsbsystems.com

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