

## BURSTCHECK LINE OF RUPTURE DISC BURST INDICATORS

### INTRODUCTION

Rupture discs are often used as primary pressure relief devices and to isolate pressure relief valves. When used as a primary pressure relief device, burst indication is used to provide instantaneous notification of rupture disc activation. When rupture discs are used in conjunction with pressure relief valves, they remove valves from contact with harsh process conditions and helps prevent fugitive emissions. In this application, the ASME code, Section VIII, Div. 1, requires that the space between the disk and the valve must be provided with a suitable telltale assembly capable of detecting a rupture or pin-hole leak. Depending on the device selected, Fike burst indicators can be used to activate alarms, bells, remote annunciators or interfaced with process control systems, so that appropriate safety follow-up measures can be taken.

Fike has a wide range of rupture disc burst indication devices, use this selection guide to determine the best one for your application. Some rupture disc models offer optional “integral” burst indication that is built into the rupture disc assembly on the downstream side.

RUPTURE DISC BURST INDICATOR SELECTION GUIDE					
	BurstCheck	BurstCheck Plus	BC2 <sup>4</sup>	BCH	Integral
Liquid or Gas Service	Yes	Yes	Yes <sup>2</sup>	Yes	Yes
Process Temperature	400°F	400°F	500°F	350°F	450°F <sup>5</sup>
Explosion Proof	No	NEMA 7, 9	No	No	No
Intrinsically Safe	Yes <sup>1</sup>	N/A	Yes <sup>1</sup>	Yes <sup>1</sup>	Yes <sup>1</sup>
Weatherproof	NEMA 4	NEMA 4, 7, 9, 13	Yes	Yes	Yes
SRV Isolation	Yes	Yes	Yes	No <sup>3</sup>	No <sup>3</sup>
Pressure Extremes <sup>2</sup>	10 to 1000 psi	10 to 500 psi	See Note 6	10 psi minimum	See Note 5
Disc Types	All	All	Axius, SRX, SRL, Poly-SD, MRK, HO, P	SR-H, Axius SC, SHX, AD-H TC	SR-H, Axius SC, AD-H TC, AD-H, Lo-V

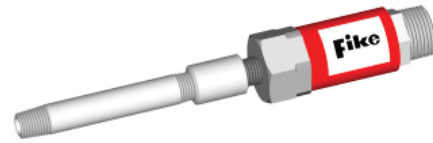
1. When properly installed with an appropriate intrinsic barrier and in accordance with local and national electric codes.
2. Pressure limits may be a function of size and media. Consult factory for other pressures.
3. Will not detect pinhole leakage through the disc, not considered a suitable tell-tale indicator when used alone.
4. Consult factory for minimum burst pressures when using graphite rupture discs.
5. Refer to applicable rupture disc model data sheet for limitations.
6. Refer to BC2 table on page 3.

Form No. R.1.02.01-7

## BURSTCHECK (BC) AND BURSTCHECK PLUS (BCP)

### DESCRIPTION

BurstCheck and BurstCheck Plus install between a rupture disc and a safety relief valve. They provide positive indication of any pressure build-up due to leakage through the disc, or disc burst due to overpressure. Because their contacts are either normally open or normally closed, BurstCheck and BurstCheck Plus can be wired in a “fail-safe” configuration for continuous supervision of intact circuitry. BurstCheck is designed as a single unit and incorporates a 1/2” conduit connection. The internal sensor is constructed of 303 stainless steel with a Viton® pressure sensing diaphragm.



*BC burst indicator*

BurstCheck is suitable for intrinsically safe applications when properly installed with an appropriate intrinsic barrier and in accordance with local and national electric codes.

BurstCheck Plus is designed as a single unit and incorporates a 1/2” conduit connection. The hermetically sealed switch is rated for use in hazardous locations.

Both units are supplied with a stainless steel pipe nipple for standoff mounting.

### BURSTCHECK PLUS SPECIFICATIONS

#### **Hazardous Area Rating**

Nema 4, 7, 9, 13

UL/CSA Listed Div. I, Class 1, Groups A, B, C, and D;  
Class II, Groups E, F, and G

#### **Contact Arrangement**

SPDT Hermetically sealed

#### **Contact Electrical Rating**

120 VAC + 10% @ 11 amperes resistive load  
30 VDC + 10% @ 5 amperes resistive load

#### **Seal**

Switch hermetically sealed from process  
Environmentally sealed NEMA 4, 7, 9, 13

#### **Materials of Construction**

Wetted parts: 316 SST, Viton®

#### **Activation Pressure**

Set point @ 6 PSIG/.41 BARG

#### **Max. Operating Pressure**

500 PSIG/34 BARG

#### **Housing Proof Pressure**

750 PSIG/51 BARG

#### **Process Temperature Range**

-40 to 400°F (-40 to 204°C)

#### **Ambient Temperature Range**

-30 to 160°F (-34 to 71°C)

### BURSTCHECK SPECIFICATIONS

#### **Contact Arrangement**

SPDT

#### **Contact Electrical Rating**

120 VAC @ 5A

#### **Intrinsic Safety**

The BC is intrinsically safe for Class I, Groups A, B, C, and D when connected through a CSA certified shunt diode safety barrier. Intrinsic Safety Barrier available from Fike, P/N 02-8353.

#### **Seal**

Environmentally sealed (NEMA 4)

#### **Materials of Construction**

High impact plastic  
303 SST wetted parts  
Viton diaphragm

#### **Activation Pressure**

Set point @ 6 PSIG/.41 BAR

#### **Housing Proof Pressure**

1000 PSI/68.95 BAR

#### **Process Temperature Range**

0 to 400°F (-18 to 204°C)

#### **Ambient Temperature Range**

0 to 165°F (-18 to 74°C)

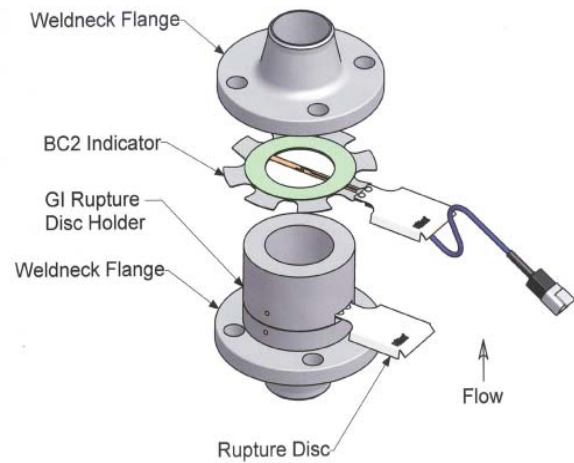
# BURSTCHECK 2™ (BC2)

## DESCRIPTION

The BC2 is a rupture disc burst indicator that uses a break in electrical continuity to signal the burst of a rupture disc. The indicator consists of a insulated flex-circuit and may have a Teflon® diaphragm or actuator strip mounted across a ring with integral gaskets. Upon disc rupture, the BC2's thin Teflon diaphragm or Actuator Strip acts upon the flexible circuit causing the circuit to be physically broken. This open circuit condition can be used to activate alarms, bells, remote annunciators or interfaced with process control systems. This provides process operators with immediate annunciation of an overpressure event so that appropriate measures can be taken.

The circuit conductive loop is protected with Kapton®, providing excellent corrosion resistance.

*NOTE: While similar in appearance, the BC2 is not a rupture disc and cannot be used as such. There should be no pressure differential across the BC2.*



BC2 burst indicator

## BC2 SPECIFICATIONS

### Disc Compatibility

Axius, SRX, SRL, Poly-SD, MRK, HO, P

### Sizes

1/2 thru 24"  
ANSI, DIN, JIS, etc.

### Contact Arrangement

Normally closed

### Intrinsic Safety

The BC2 is intrinsically safe for Class I, Groups A, B, C, and D when connected through a CSA certified shunt diode safety barrier. Maximum resistance across the circuit prior to rupture is 2.0 OHMS. Intrinsic Safety Barrier available from Fike, P/N 02-8353.

### Electrical Rating

24 VAC/DC @ 50mA

### Materials of Construction

Indicator circuit: Copper foil laminated between Kapton® Membrane: PFA Teflon® with Nylon connector (2" & 3") PTFE Teflon® with Nylon connector (4" and up) Support Frame: 316 SST Gasket: Compressed arimide fiber in nitrile binder

### Process Temperature Range

-40 to 500°F (-40 to 260C)

### Atmospheric Temperature Range

-40 to 165°F (-40 to 74°C)

### Wiring

Two conductor 20 AWG with shield and 20 AWG drain Blue PFA jacket

### Cable Connection

The BC2 comes with 18" of 20 AWG cable equipped with a 3 pin quick disconnect weatherproof receptacle. A lead cable can be purchased in lengths of 10' (Fike P/N D3513-115-10) and 25' (Fike P/N D3513-115-25) with quick disconnect plug to connect to customer monitoring systems.

### Listing

CSA certified   
Directive 94/9/EC 

### Corresponding Rupture Disc Minimum Burst Pressures

Nominal Size	PSIG (BARG)
1/2" (DN15)	36 (2.48)
3/4" (DN20)	34 (2.34)
1" (DN25)	10 (.69)
1 1/2" (DN40)	8 (.55)
2" (DN50)	8 (.55)
3" (DN75)	7 (.48)
4" (DN100)	7 (.48)
6" (DN150)	6 (.41)
8" (DN200)	4.5 (.31)
10" (DN250)	3.6 (.25)
12" (DN300)	3 (.21)
14" (DN350)	2.6 (.18)
16" (DN400)	2.3 (.16)
18" (DN450)	2 (.14)
20" (DN500)	1.8 (.12)
24" (DN600)	1.5 (.10)

**Note:** Any application where the burst pressure falls below the values on this table will need to be evaluated by Fike

# BURSTCHECK HYGENIC™ (BCH)

## DESCRIPTION

The BCH Burst Indicator is specifically designed for use with standard Tri-Clover™ ferrules and clamps. It provides instantaneous notification of rupture disc activation. The indicator consists of a insulated flex-circuit and may have a Teflon® diaphragm or actuator strip mounted across a ring with a selected gasket. Upon disc rupture, the BC2's thin Teflon diaphragm or Actuator Strip acts upon the flexible circuit causing the circuit to be physically broken. This open circuit condition can be used to activate alarms, bells, remote annunciators or interfaced with process control systems. This provides process operators with immediate annunciation of an overpressure event so that appropriate measures can be taken.

The circuit conductive loop is protected with Kapton®, providing excellent corrosion resistance.

The flexible circuit is physically attached at two locations and is broken in a predetermined pattern. This eliminates the possibility of the conductive loop remaining intact after disc rupture.

The BCH is installed downstream of the rupture disc.

*NOTE: While similar in appearance, the BCH is not a rupture disc and cannot be used as such. There should be no pressure differential across the BCH.*

## SPECIFICATIONS

### Disc Compatibility

SR-H, Axius SC, SHX

### Intrinsic Safety

The BCH is intrinsically safe for Class I, Groups A, B, C, and D when connected through a CSA certified shunt diode safety barrier at levels of 50 mA @ 24 VAC/DC. Maximum resistance across the circuit prior to rupture is 1.0 OHMS. An intrinsic Safety Barrier is available from Fike, P/N 02-8353.

### Process Temperature Range

-40 to 350°F (-40 to 177°C)

### Atmospheric Temperature Range

-40 to 165°F (-40 to 74°C)

### Gasket Temperature Range

\*EPDM: -40 to 300°F (-40 to 149°C)

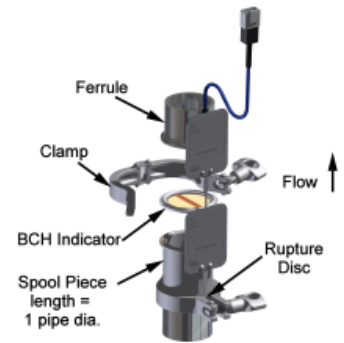
\*Silicone: -40 to 450°F (-40 to 232°C)

\*Viton®, \*PTFE Teflon®: -20 to 450°F (-28 to 232°C)

Note: \* USP Class 6



BCH burst indicator



Schematic of BCH with rupture disc

### Cable Connection

The BCH comes with 18' of 20 AWG cable equipped with a 3 pin quick disconnect weatherproof receptacle. A lead cable can be purchased in lengths of 10' and 25' with a quick disconnect plug to connect to customer monitoring systems.


### Materials of Construction

Indicator circuit: Copper foil laminated between Kapton®

Membrane: PTFE Teflon®

### Listing

CSA Certified 

Directive 94/9/EC 

# INTEGRAL BURST INDICATOR

## DESCRIPTION

The integral burst indicator is built directly into the rupture disc assembly on the downstream side and provides instantaneous notification of rupture disc activation. The indicator consists of a insulated flex-circuit actuator strip mounted across the disc ring with a selected gasket. Upon disc rupture, the normally closed circuit is physically broken. This open circuit condition can be used to activate alarms, bells, remote annunciators or interfaced with process control systems and provides process operators with immediate annunciation of an overpressure event so that appropriate measures can be taken.

The circuit conductive loop is protected with Kapton®, providing excellent corrosion resistance.

The flexible circuit is physically attached at two locations and is broken in a predetermined pattern. This eliminates the possibility of the conductive loop remaining intact after disc rupture.



*Axis SC with burst indicator*

## SPECIFICATIONS

### Integral Burst Indicator (BI)

Rupture Disc Option for the following models:  
SR-H, Axis SC, Lo-V, AD-H-TC

### Intrinsic Safety

The Integral BI is intrinsically safe for Class I, Groups A, B, C, and D when connected through a CSA certified shunt diode safety barrier at levels of 50 mA @ 24 VAC/DC. Maximum resistance across the circuit prior to rupture is 1.0 OHMS. An intrinsic Safety Barrier is available from Fike, P/N 02-8353.

### Process Temperature Ranges

-40°F to 450°F (-40°C to 232°C)

### Atmospheric Temperature Range

-40°F to 165°F (-40°C to 74°C)

Temperature limits may be further restricted by specific disc model/  
material selections

### Cable Connection

The Integral BI comes with 18” of 20 AWG cable equipped with a 3 pin quick disconnect weatherproof receptacle. A lead cable can be purchased in lengths of 10’ and 25’ with a quick disconnect plug to connect to customer monitoring systems.

### Burst Indicator Materials of Construction

Indicator circuit: Copper foil laminated between Kapton

### Listing

CSA Certified 



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