

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/BC2LP	BCH	Integral
Liquid or Gas Service	Yes	Yes	Yes ²	Yes	Yes
Process Temperature	400°F (204°C)	400°F (204°C)	500°F (260°C)	350°F (177°C)	350°F (177°C)
Explosion Proof	No	NEMA 7, 9	No	No	No
Intrinsically Safe	Yes ¹	N/A	Yes ¹	Yes ¹	Yes ¹
Weatherproof	NEMA 4	NEMA 4, 7, 9, 13	Yes	Yes	Yes
SRV Isolation⁶	Yes	Yes	No ³	No ³	No ³
Pressure Extremes²	10 to 1000 PSIG	10 to 500 PSIG	See Note 5	10 PSIG minimum	See Note 4
Disc Types	All	All	Axius, Atlas SRX, SRL, Poly-SD, MRK, HO, P GD	SR-H, Axius SC, SHX, AD-H TC	SR-H, Axius SC, AD-H TC, AD-H, Lo-V GD ⁷

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. Refer to applicable rupture disc model data sheet for limitations.
5. Refer to BC2 table on page 3 or BC2LP table on page 4.
6. Refer to Technical Bulletin TB8105
7. Graphite series rupture discs may be equipped with an integral burst indication device. Please see data sheet R.1.40.01

BURSTCHECK (BC) AND BURSTCHECK PLUS (BCP)



BC burst indicator

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 IN conduit connection. The internal sensor is constructed of 303 stainless steel with a Viton® pressure sensing diaphragm.

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 IN 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)
Installation:	1/4 IN NPT (male)

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 BARG
Housing Proof Pressure:	1000 PSIG/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)
Installation:	1/4 IN NPT (male)

BURSTCHECK 2™ (BC2)

DESCRIPTION

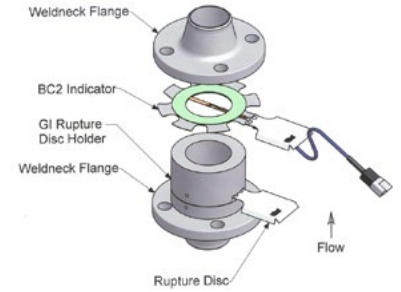
The BC2 is a rupture disc burst indicator that uses a break in electrical continuity to signal the burst of a rupture disc. The indicator consists of a insulated flex-circuit and may have a fluoropolymer diaphragm or actuator strip mounted across a ring with integral gaskets. Upon disc rupture, the BC2's thin fluoropolymer diaphragm and 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 SPECIFICATIONS

Disc Compatibility: Axius, Atlas, SRX, SRL, Poly-SD, MRK, HO, P
 Sizes: 1/2 thru 24 IN
 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.
 2 & 3 inch: PFA fluoropolymer with Nylon connector
 4 in and up: PTFE Fluoropolymer with Nylon connector
 Support Frame: 316 SST Gasket: Compressed arimide fiber in nitrile binder
 Process Temperature Range: -40 to 500°F (-40 to 260°C)
 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 IN 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.
 Listings: CSA certified
 ATEX Directive 94/9/EC
 IECEx INE 12.0004X



BC2 burst indicator

APPROVALS:

- CSA Certified
- ATEX Directive 94/9/EC
- IECEx INE 12.0004X



CORRESPONDING RUPTURE DISC MINIMUM BURST PRESSURES

Nominal Size (IN)	.50 (DN15)	.75 (DN20)	1 (DN25)	1.50 (DN40)	2 (DN50)	3 (DN75)	4 (DN100)	6 (DN150)	8 (DN200)	10 (DN250)	12 (DN300)	14 (DN350)	16 (DN400)	18 (DN450)	20 (DN500)	24 (DN600)
	PSIG (BARG)	36 (2.48)	34 (2.34)	10 (.69)	8 (.55)	8 (.55)	7 (.48)	7 (.48)	6 (.41)	4.5 (.31)	3.6 (.25)	3 (.21)	2.6 (.18)	2.3 (.16)	2 (.14)	1.8 (.12)

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

BURSTCHECK 2™ LOW PRESSURE (BC2LP)

DESCRIPTION

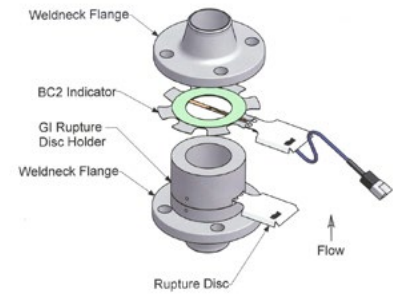
The BC2LP is a low-pressure rupture disc burst indicator that uses a break in electrical continuity to signal the burst of a rupture disc. The indicator consists of a insulated flex-circuit and has a fluoropolymer diaphragm and actuator strip mounted across a ring with integral gaskets. Upon disc rupture, the BC2LP's thin fluoropolymer diaphragm and actuator strip act 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 BC2LP is not a rupture disc and cannot be used as such. There should be no pressure differential across the BC2LP.

BC2LP SPECIFICATIONS

Disc Compatibility:	Axius, SRL, AD, AD-V, GD
Sizes:	1 thru 4 IN. (DN25-DN100) ANSI, DIN, JIS, etc.
Contact Arrangement:	Normally closed
Intrinsic Safety:	The BC2LP 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 and Fluoropolymer membrane.
Support Frame:	316 SST Gasket: Compressed aramid fiber in nitrile binder BC2 burst indicator
Process Temperature Range:	-40 to 500°F (-40 to 260°C)
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 BC2LP 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.
Listings:	CSA certified ATEX Directive 94/9/EC IECEX INE 12.0004X



BC2 burst indicator

APPROVALS:

- CSA Certified
- ATEX Directive 94/9/EC
- IECEX INE 12.0004X



CORRESPONDING RUPTURE DISC MINIMUM BURST PRESSURES

Nominal Size (IN)	1" (DN25)	1.50" (DN40)	2" (DN50)	3" (DN75)	4" (DN100)
PSIG (BARG)	5 (.34)	4 (.28)	3 (.21)	2 (.14)	1.5 (.10)

Note: Maximum rated burst pressure for BC2LP is 15 PSIG (for all sizes).

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 fluoropolymer diaphragm or actuator strip mounted across a ring with a selected gasket. Upon disc rupture, the BC2's thin fluoropolymer 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:
Intrinsic Safety:

SR-H, Axis SC, SHX, AD-H TC
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:
Atmospheric Temperature Range:
Gasket Temperature Range:

-40 to 350°F (-40 to 177°C)
-40 to 165°F (-40 to 74°C)
*EPDM: -40 to 300°F (-40 to 149°C)
*Silicone: -40 to 450°F (-40 to 232°C)
*Viton®, *PTFE fluoropolymer: -20 to 450°F (-28 to 232°C)
Note: USP Class 6

Cable Connection:

The BCH comes with 18 IN of 20 AWG cable equipped with a 3 pin quick disconnect weatherproof receptacle. A lead cable (P/N D3515-115-X) can be purchased in lengths of 10' and 25' with a quick disconnect plug to connect to customer monitoring systems.

Materials of Construction:

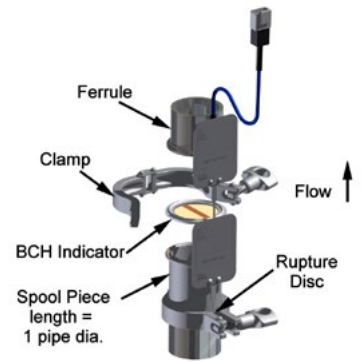
Indicator circuit: Copper foil laminated between Kapton®
Membrane: PTFE fluoropolymer

Listings:

CSA Certified
ATEX Directive 94/9/EC



BCH burst indicator



Schematic of BCH with rupture disc

APPROVALS:

- CSA Certified
- ATEX 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.

SPECIFICATIONS

Integral Burst Indicator (BI):

Intrinsic Safety:

Process Temperature Ranges:

Atmospheric Temperature Range:

Cable Connection:

Burst Indicator Materials of Construction:
Listing:

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

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.

-40° to 350°F (-40° to 177°C)

-40° to 165°F (-40° to 74°C)

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

The Integral BI comes with 18 IN of 20 AWG cable equipped with a 3 pin quick disconnect weatherproof receptacle. A lead cable (P/N D3515-115-X) can be purchased in lengths of 10' and 25' with a quick disconnect plug to connect to customer monitoring systems.

Indicator circuit: Copper foil laminated between Kapton
CSA Certified



Axius SC with burst indicator

APPROVAL:

- CSA Certified

