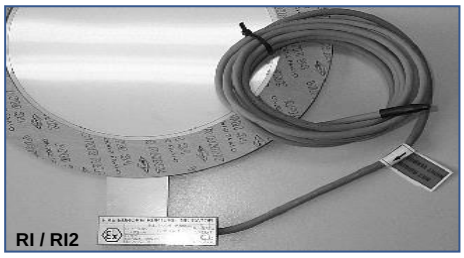
DATA SHEET

BURST INDICATORS
TYPE RI – RI2 – BC2 – BC2-LP – BCH™/-BI



DESCRIPTION

The Fike Burst Indicator will give instant warning that a bursting disc has ruptured and that products may be venting into the atmosphere, or that product may be lost or contaminated if the bursting disc is not immediately replaced. It can interlock with control equipment in order to stop or alter the process. If the bursting disc or safety valve relieves into a common header the signal obtained from the RI will indicate the location of the problem.

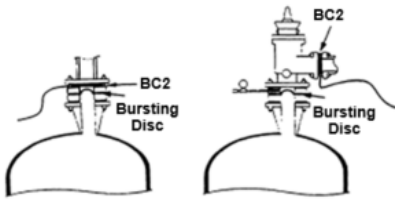
RI / RI2

The RI consists of an insulated electrically conductive strip attached to a stainless steel baffle, which is supported by a stainless steel ring. The RI is equipped with a built-in self-resetting fuse for protection against unacceptably high currents.

Compared to the standard RI, the RI2 includes additional series and end of line resistors to provide full wiring supervision. The RI2 burst indicator offers a high Safety Integrity Level: SIL 2 according to IEC61508. Both indicators are supplied with 3m of electrical wire.

BC2 / BC2-LP

The BC2 series consists of an insulated conductive strip. As a standard the BC2 is supplied with 11.8” (0.30 m) of electrical wire and a 3-pin quick connector plug.



BCH™ / -BI

The BCH is specifically designed for use with the SR-H, AXIUS SC or SHX hygienic service bursting disc. As a standard the BCH is supplied with 11.8” (0.30m) of electrical wire and a 3-pin quick connector plug.

The burst indicator can be integrated in some bursting disc types (Axius SC,SR-H). The burst indicator is then referred to as “-BI”.

Note: The RI, RI2, BC2/-LP and BCH™/-BI must be installed with an intrinsically safe barrier or safety control equipment when used in hazardous locations.

FEATURES AND BENEFITS

- Rigid flange construction
- Corrosion resistant
- Easy replacement upon disc ruptures
- Compatibility with standard design bursting discs and safety relief valves
- High mechanical rigidity
- Simple “plug & play” design
- Integral self-resetting electrical fuse (RI, RI2)
- Complete wiring supervision (RI2 only)
- IEC61508-SIL2 approved (RI2 only)

MOUNTING

The Fike burst indicators can be mounted on the vent side of a bursting disc assembly or safety relief valve. For large bursting discs (> DN150/6”) a spacer ring may be required to prevent contact between the protruding dome of the bursting disc and the burst indicator.

SPECIFICATIONS [1]

Model			RI / RI2	BC2	BC2-LP	BCH™/-BI
Configuration			Flat			
Sizes			DN25 – DN300 1" – 12"	DN15 – DN600 ½" – 24"	DN25 – DN100 1" – 4"	DN40 – DN100 1 ½" – 4"
Material	Gasket [2]		Non asbestos			Silicone [3]
	Baffle		SST	N/A		
	Conductor		Cu-foil laminated between Kapton®-film			
	Ring [4]		SST			
	Seal		N/A	Fluoropolymer [5]		
	Gasket [2]		Non asbestos			Silicone [3]
Max. Process Temperature [6]			260°C			175°C
Ambient Temperature			T4 = -40°C to +80°C T6 = -40°C to +70°C			
Max. Voltage			24VAC/DC			
Max. Current			50mA			
Max. Total Cable Resistance			30Ω	2Ω		
Electrical Cable	Length [7]		3m	11.8" (0.30m)		
	Type		1 x 2 x 0.5 mm²			
	Materials		PVC shielded and insulated	PTFE shielded and insulated		
	Colour		Blue			
	Max. Temperature		80°C			
Electrical Connector			N/A	3-PIN Quick Connect		
Alternative Cable Length (extensions)			Optional 10m & 25m	See note 7		
Designed / Certified for Use in Explosion Proof Electrical Circuitry per	ATEX	US	TÜV IT 18 ATEX 057 X Rev.1 II 1G Ex ia IIB T4 Ga II 1D Ex ia IIIC T135°C Da II 1G Ex ia IIB T6 Ga II 1D Ex ia IIIC T85°C Da			
		EU	INERIS 19ATEX0027X II 1 G D Ex ia IIB T4 Ga Ex ia IIIC T135°C Da -20°C < T_{amb} < +80°C			
	IECEx		IECEx TPS 21.0007X Ex ia IIB T4 Ga Ex ia IIC T135°C Da Ex ia IIB T6 Ga Ex ia IIIC T85°C Da			
	CSA		-	CSA Cert# 2295897 Class I, Division 1, Groups C and D Ex ia IIB T6/T4 Ga Class I, Zone 0 AEx ia IIB T6/T4 Ga Class II, Groups E, F and G; Class III Ex ia IIIC T85°C/T135°C Da Zone 20 AEx ia IIIC T85°C/T135°C Da		

IP-rating (self-assessed)		IP68	IP65	
Use between Standard Flanges	ANSI 150/300/600 ANSI 16.31/16.5	Yes	Yes	No
	EN1092-1	Yes	Yes	No
	Tri-Clamp Connection DIN 32676/ ISO 2852	No	No	Yes

(1) Will not detect pinhole leakage through the bursting disc, not considered a suitable tell-tale indicator when used alone.
(2) Standard gaskets are asbestos-free (AFM34) on RI, RI2 & BC2/-LP and Silicone on BCH™/-BI. Other materials, such as fluoropolymer, can be supplied on request. Consult factory.
(3) Other materials, Viton or EPDM (max. temp. 150°C) are available on request.
(4) Standard material of construction is 1.4301 (304 SST) for BC2/-LP & BCH™/-BI, 1.4404 (316L SST) for RI & RI2. Other materials are available on request.
(5) Permeable sheet of fluoropolymer used - depending on size / execution.
(6) Standard gaskets are asbestos-free (AFM34). Maximum operating temperature will be dependent on process media (example: water / steam max. 200°C).
(7) The BC2/-LP and BCH™/-BI are supplied with 0.30m (11.8”) of cable and 3-PIN Plug and Socket connector. Optional extension cable lengths of 3m (10”) and 7.5m (25”) with quick connector plugs are available on request.

TABLE – MINIMUM ΔP (MBARG) REQUIRED FOR FUNCTIONING [1] [2]

Type		RI / RI2										
Size	DN	25	40	50	65	80	100	125	150	200	250	300
	Inch	1	1 ½	2	2 ½	3	4	5	6	8	10	12
Minimum ΔP required (mbarg)		1800	800	600	500	430	350	300	260	210	175	160
Relief Area (cm²)		4.52	7.07	13.85	22.06	34.73	65.76	114.99	161.73	286.52	461.86	615.75

Type		BC2															
Size	DN	15	20	25	40	50	80	100	150	200	250	300	350	400	450	500	600
	Inch	½	¾	1	1 ½	2	3	4	6	8	10	12	14	16	18	20	24
Minimum ΔP required (mbarg)		2480	2345	690	550	550	480	480	415	310	250	205	180	160	140	125	105
Relief Area (cm²)		Select Relief Area of Upstream Disc															

Type		BC2-LP					BCH™/-BI				
Size	DN	25	40	50	80	100	25	40	50	80	100
	Inch	1	1 ½	2	3	4	1	1 ½	2	3	4
Minimum ΔP required (mbarg)		340	280	210	140	100	690	550	550	485	485
Relief Area (cm^2)		Select Relief Area of Upstream Disc					Select Relief Area of Upstream Disc				

(1) Subject to the rate of pressure rise, minimal fragmentation may occur.
(2) Consult factory for minimum burst pressures when used with graphite bursting discs.