DATA SHEET

VALVEX® PASSIVE EXPLOSION ISOLATION VALVE

DESCRIPTION

The ValvEx® is designed to prevent flame and pressure propagation through pipes, ducts or conveying lines to interconnected process equipment or operating locations. Several years of dedicated research has resulted in unique insights into mechanisms of explosion propagation and efficiency of passive explosion isolation.

SAFETY FUNCTION

The ValvEx® consists of a heavy duty coated steel body containing a high strength, formed stainless steel flap. Air flow will open the flap to allow normal process conveyance conditions. When an explosion occurs in the adjacent vessel, the flow will reverse causing the flap to close onto its field replaceable seal, stopping explosion pressure and flame propagation.

FEATURES AND BENEFITS

- Integrated seal
- Easy to maintain
- Compact, small installation dimensions
- Designed for low cost of ownership
- ATEX certified
- NFPA 69 compliant
- Formed stainless steel flap (high strength)

APPROVALS:

- INERIS 17ATEX0008X according to EN16447

PRODUCT	P/N
DN100 (4”) w/ Installation Kit*	E30-047-0100
DN150 (6”) w/ Installation Kit*	E30-047-0150
DN200 (8”) w/ Installation Kit*	E30-047-0200
DN250 (10”) w/ Installation Kit*	E30-047-0250
DN300 (12”) w/ Installation Kit*	E30-047-0300
DN355 (14”) w/ Installation Kit*	E30-047-0355
DN400 (16”) w/ Installation Kit*	E30-047-0400
ATEX/IECEx Air Pulse	E30-0653-1
CSA/IECEx Air Pulse	E30-0653-2
Dust Layer Accumulation Sensor	02-15850
Intrinsic Safety Barrier **	02-15293

* Installation kit includes companion flanges, gaskets, and fasteners

** Intrinsic safety barrier must be ordered separately and is dual-channel to support both the activation switch and the dust layer accumulation sensor

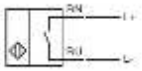
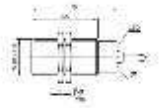
SPECIFICATIONS

Type	ValvEx® v2 Passive Explosion Isolation Valve
Process Connection	Bolted flanges (DIN 24154 – RII T2)
Explosion hazard	KSt ≤ 450 bar.m/s Pmax ≤ 10 bar (145 psig)
Maximum Experimental Safe Gap (MESG)	1.16 mm
$P_{red, max}$	1 bar (14.5 psig)
Explosion Pressure Resistance	2.5 bar (36.3 psig)
Operating Temperature Range*	-29°C to 66°C (-20°F to 150°F)
Environmental Temperature Range*	-30°C to 80°C (-22°F to 176°F)
Body Material	Carbon-steel coated RAL 5023
Operating Pressure	+/- 0.5 bar (+/- 7.3 psig)
Wetted Parts	Coated carbon steel, 17-4 PH SST, 304 SST, EPDM

** temperature range provided for base model, see optional accessory limits*

Valve Locked Indicator (P/N: 02-13579-1) - Standard included in newly ordered ValvEx	
Sensing Range	12mm, flush mount
Approvals	ATEX - IEC/IECEx - CSA
Electrical Design	Connection to Ex-NAMUR-rated intrinsically safe circuits
Maximum Switching Voltage	175 VDC
Maximum Switching Current	0.25 ADC
Typical Resistance	0.2 Ω
Nominal Switching Voltage	8.2 VDC
Ambient Temperature	-40°C to 105°C (-40°F to 221°F)
Connection	24 AWG 7/32 PVC cable 105°C, 1000mm, double-insulated, tinned leads
Wiring	Two conductors, can be connected in either configuration
Housing	Stainless steel; M8 dia x 1.25mm pitch thread, 36mm body, 2 retaining nuts included

**NOTE: This is a "simple device" that is not covered by the ATEX product directive 2014/34/EG. Indicator can only be applied in circuits of type protection "I".*

Dust Layer Accumulation Sensor (P/N: 02-15850)	
Sensing Range	10 mm
Approvals	ATEX – IEC – cETLus
Electrical Design	Connection to NAMUR rated intrinsically safe circuits
Nominal Voltage	8.2 VDC (Ri approx.. 1kΩ)
Operating Voltage	5 – 15 V
Current Consumption	≤ 1.5mA disabled (≥ 2.5 mA)
Ambient Temperature	-20°C to 70°C (-4°F to 158 °F)
Protection	IP67
Connection	Cable PUR, 2 m; 2 x 0.75 mm2
Wiring BN – brown, BU – blue	
Housing 2 lock nuts included	
Housing Materials	1.4305/AISI 303 Stainless Steel housing, PTFE sensing face

APCS Solenoid – ATEX (P/N: E30-0653-1)	
Supply voltage	24 VDC - 2W
Ambient Temp (operating)	-25 to 60°C (-13 to 140°F)
Approvals	ATEX - IECEx
De-energized State	Normally Closed
Protection	IP 65
Wiring	Blue (Ground) Yellow/Green stripe (Protected Earth) Red (Signal +24 VDC to open) Flying Leads, 3m (118 in)
APCS Solenoid – CSA (P/N: E30-0653-2)	
Supply voltage	24 VDC - 3W
Ambient Temp (operating)	-15°C to 60°C (5°F to 140°F)
Approvals	CSA - IECEx
De-energized State	Normally Closed
Protection	NEMA 7 & 9
Wiring	Blue (Ground) Yellow/Green stripe (Protected Earth) Red (Signal +24 VDC to open) Flying Leads, 3m (118 in)

ValvEx® v2 Size	Dimensions					Bolts			Mass
	A mm (in)	B mm (in)	C mm (in)	ØD mm (in)	E mm (in)	Size mm	Qty	Torque N-m (ft-lb)	kg (lb)
DN100 (4")	349 (13.8)	516 (20.3)	333 (13.1)	91.4 (3.6)	643 (25.3)	M8	4	20 (15)	33 (73)
DN150 (6")	399 (15.7)	583 (23.0)	383 (15.1)	141 (5.6)	751 (29.6)	M10	8	40 (30)	43 (94)
DN200 (8")	449 (17.7)	651 (25.6)	433 (17.0)	191 (7.5)	858 (33.8)	M10	8	40 (30)	53 (116)
DN250 (10")	499 (19.7)	719 (28.3)	483 (19.0)	241 (9.5)	966 (38.0)	M10	8	40 (30)	64 (141)
DN300 (12")	549 (21.6)	787 (31.0)	533 (21.0)	291 (11.5)	1074 (42.3)	M10	8	40 (30)	76 (168)
DN355 (14")	604 (23.8)	861 (33.9)	588 (23.1)	346 (13.6)	1192 (46.9)	M10	8	40 (30)	91 (200)
DN400 (16")	649 (25.6)	922 (36.3)	633 (24.9)	391 (15.4)	1289 (50.8)	M10	12	40 (30)	108 (238)