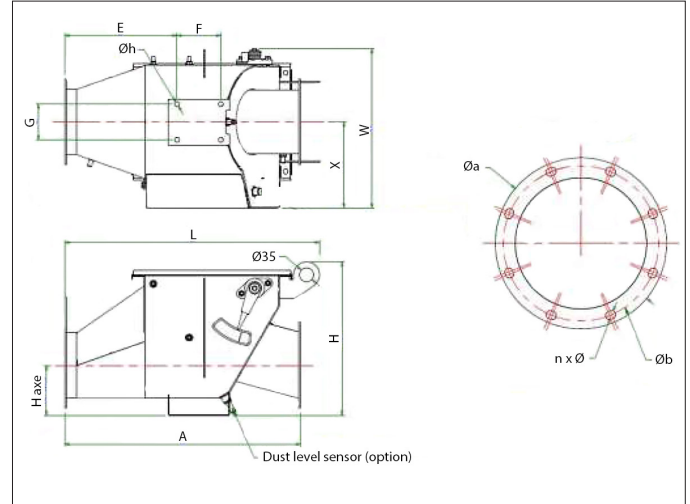


BADA-VEX - Certified ATEX non-return valves



BADA-VEX - Certified ATEX non-return valves

An explosion involves not only the immediate processed material, but can also propagate to the rest of the installation. This propagation can be avoided if the affected processed material is quickly isolated by a non-return valve.

The BADA-VEX non-return valve is designed to separate the filter from the rest of the installation. It is a simple and effective system that is easy to install, without electronics which requires no electrical connections, practically no maintenance and with very low pressure loss.

Our BADA-VEX non-return valve is an excellent ATEX St2 certified Safety system for the compartmentalization of an explosion and is suitable for use in Ex zone 21 (ext.) and up to Ex zone 20 (int.) for organic as well as synthetic and metal dust applications and is equipped as a standard with a non-ATEX closing detection sensor.

The blade locking mechanism allows the BADA-VEX to be placed before and after the vessel in horizontal and vertical position.

Advantages

- ! - economically suitable solution for security against an explosion
- completely mechanical requiring practically no maintenance
- no power consumption
- low pressure losses
- high pressure resistance
- indoor or outdoor assembly allowed
- loaded and clean air mounting
- horizontal and vertical assembly

ATEX conformity

- ATEX norm 114 : 2014/34/EC
- EN 16447 : 2014, EN 15089 : 2009 and NFPA 69 regulations

Material

- Body : powder-coated steel
- Closing flap : round domed stainless steel
- Surface treatment : powder coated RAL 3020

Type

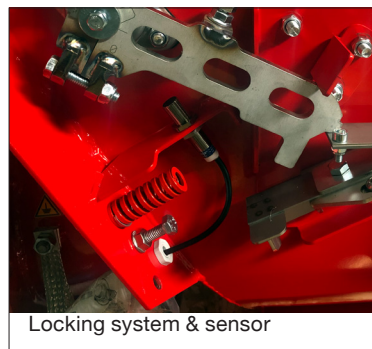
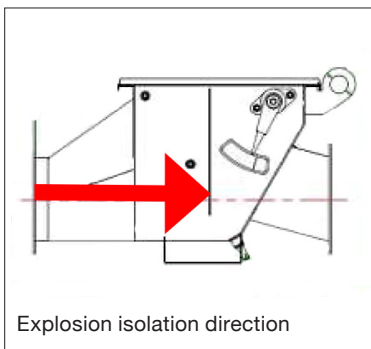
- Rolled and welded plates with welded ISO/ANSI flanges
- EPDM gasket -30°C to +70°C (FDA conform)
- Non-ATEX inductive locking detection sensor

Other information

- certification number : INERIS 23ATEX0012X
- available in diameters Ø 160 up to Ø 800
- exterior zone certification : 21-22
- interior zone certification : 20-21-22
- level of protection : St2 (organic, synthetic & metal),
Kst max. = 250 bar*m/s, Kst min. = no limit, MIE =10 Mj, MIT = 400°C
- Pred,max. : 0,5 bar
- minimum airspeed : 15 m/s
- maximum airspeed : 45 m/s (loaded air), 30m/s (clean air)
- max. bends between BADA-S and vessel : no limit
- max. dust concentration in duct : no limit
- temperature range : -30°C to +70°C.

Options

- body in zinc coated steel, or stainless steel
- FDA conform silicone gasket (-10°C to +180°C)
- inspection window on top lid
- ATEX 21 closing inductive sensor
- dust level sensor (max. +70°C)
- connection box
- counter-flanges



BADA-VEX - Certified ATEX non-return valves
References and installation distances

BADA-VEX Ød	Internal reference	Min. vessel		Installation distance	
		volume (m³)	LMin * (m)	LMin+2m ** (m)	LMax * (m)
160	NABA000501	0.70/1.35	4.0/3.0	6.0/5.0	17.0
180	NABA000502	0.70/1.35	4.0/3.0	6.0/5.0	17.0
200	NABA000503	1.35	4.6	6.6	17.0
250	NABA000504	1.35	4.0	6.0	17.0
300	NABA000505	2.90	4.6	6.6	17.0
350	NABA000506	2.90	4.2	6.2	17.0
400	NABA000507	4.50	5.2	7.2	17.0
450	NABA000508	4.50	4.7	6.7	17.0
500	NABA000509	6.05	5.8	7.8	17.0
550	NABA000510	6.05	5.5	7.5	17.0
600	NABA000511	7.65	7.2	9.2	17.0
650	NABA000512	7.65	6.7	8.7	17.0
700	NABA000513	7.65	6.4	8.4	17.0
750	NABA000514	10.00	7.3	9.3	17.0
800	NABA000515	10.00	6.9	8.9	17.0

* with flap in floating position

** with flap in locked open position, or vertical mounting, or with bends

Pressure loss (in mm H₂O)

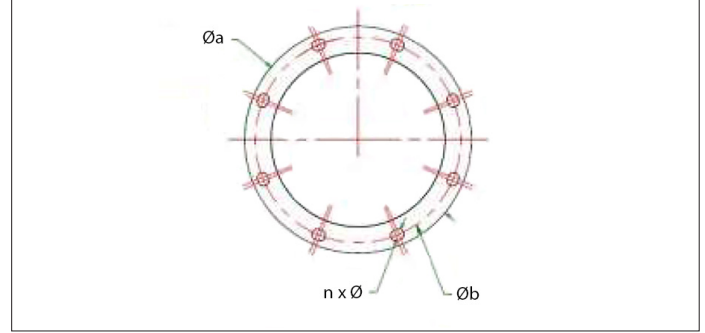
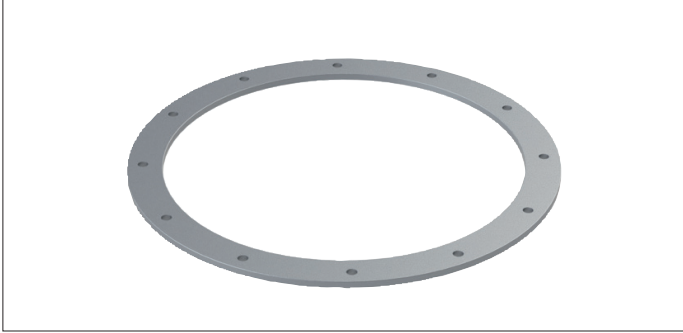
BADA-VEX Ød	LOADED AIR (floating or locked)				CLEAN AIR (locked)			
	15 (m/s)	25 (m/s)	35 (m/s)	45 (m/s)	15 (m/s)	20 (m/s)	25 (m/s)	30 (m/s)
160	20	52	100	168	22	38	59	85
180	34	82	160	265	34	61	95	136
200	10	21	42	67	9	15	24	35
250	20	52	100	168	22	38	59	85
300	12	28	55	89	10	20	32	46
350	20	52	100	168	22	38	59	85
400	15	32	63	104	23	40	62	89
450	20	52	100	168	36	63	99	143
500	16	35	70	114	24	43	68	98
550	20	52	100	168	36	63	99	143
600	12	28	55	89	10	20	32	46
650	16	35	70	114	24	43	68	98
700	20	52	100	168	36	63	99	143
750	15	32	63	104	23	40	62	89
800	17	40	79	130	28	50	78	112

Dimensions***

Ø d	L (mm)	H (mm)	W (mm)	X (mm)	A (mm)	H axe (mm)	E (mm)	F (mm)	G (mm)	Øh (mm)	Øa (mm)	Øb (mm)	n x Ø (mm)	Weight (kg)
160	640	386	400	216	591	126	282	110	90	12	215	195	8 x 10	21
180	612	386	400	216	531	136	254	110	90	12	235	215	8 x 10	20
200	857	466	490	261	857	138	325	160	140	12	255	135	12 x 10	35
250	717	466	490	261	671	163	253	160	140	12	305	385	12 x 10	33
300	966	575	590	311	966	197	373	160	160	12	355	336	12 x 10	44
350	817	575	590	311	776	222	302	160	160	12	415	389	12 x 12	50
400	1088	705	740	385	1089	249	431	180	260	12	465	439	16 x 12	81
450	945	705	740	385	893	274	359	180	260	12	515	489	16 x 12	77
500	1197	815	840	434	1199	309	441	200	300	12	565	540	16 x 12	106
550	1045	815	840	434	996	334	369	200	300	12	615	590	16 x 12	104
600	1549	1038	992	508	1549	366	588	200	400	12	665	640	16 x 12	150
650	1363	1038	992	508	1364	391	517	200	400	12	715	690	24 x 12	150
700	1207	1038	992	508	1155	416	446	200	400	12	785	750	24 x 12	150
750	1751	1213	1200	602	1752	443	514	400	500	12	835	800	24 x 12	285
800	1563	1213	1200	602	1564	468	442	400	500	12	885	850	24 x 12	285

*** ANSI measurements available on request

BADA-VEX - Counter-flanges



BADA-VEX counter-flanges

Galvanized metric counter-flanges for the assembly of different ducting components onto the BADA-VEX non-return valves.

The drilling diameter, hole size & quantity of these flanges are a perfect match with the standard Formula Air flanged ducting elements.

! Make sure the edges of the components are large enough to hold the flange.

Material

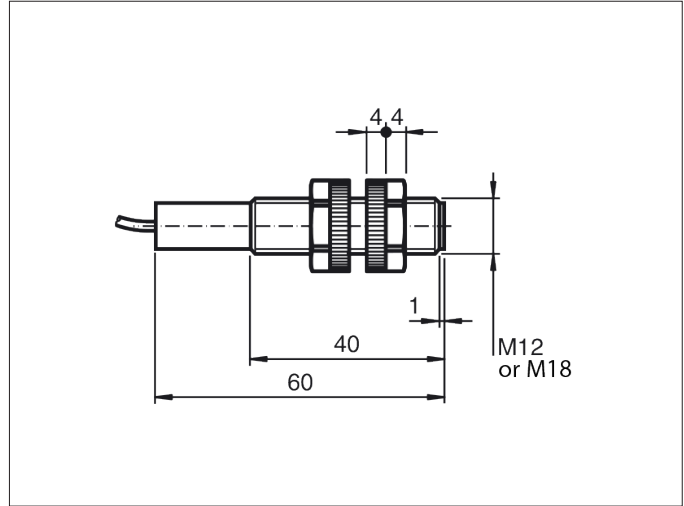
Galvanized black steel, hole pattern according to ISO norm

Options

- stainless steel version
- galvanized ANSI version
- stainless steel ANSI version

Ø	Reference code	Øa (mm)	Øb (mm)	Hole Ø (mm)	Number of holes	Weight (kg)
160	GABA000006	215	195	10	8	0.58
180	GABA000007	235	215	10	8	0.64
200	GABA000008	255	235	10	12	0.70
250	GABA000010	305	385	10	12	0.85
300	GABA000012	355	336	10	12	1.01
350	GABA000014	415	389	12	12	1.84
400	GABA000015	465	439	12	16	2.08
450	GABA000016	515	489	12	16	2.32
500	GABA000017	565	540	12	16	2.56
550	GABA000018	615	590	12	16	2.80
600	GABA000019	665	640	12	16	3.04
650	GABA000021	715	690	12	24	3.28
700	GABA000022	785	750	12	24	3.53
750	GABA000023	835	800	12	24	5.09
800	GABA000024	885	850	12	24	5.41

BADA-VEX - Locking detection sensors



BADA-VEX - Locking detection sensors

These sensors are designed to detect the closing of the non-return valve flap within the BADA-VEX ATEX non-return valve and give a signal in case of locking.

They are prewired devices produced according to the EU directives.

Available in size M12 for non-return valves up to Ø350, and in M18 as of size Ø400.

Options

- none

Material

Nickel plated brass housing with M12 or M18 mounting nuts

Type

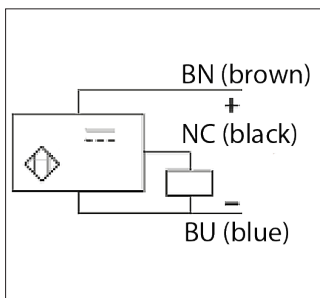
Pre-wired with 3 PVC coated cables with yellow LED

Other information (M12 version)

- conformity according to : CE, CSA, UL
- voltage : 12 to 48 V DC
- max. current : 200 mA
- protection : IP 68
- cable type : 3 x 2 m PVC coated 0.34 mm²
- temperature range : -25°C to +70°C
- TOR output : NC
- TOR output type : PNP

Other information (M18 version)

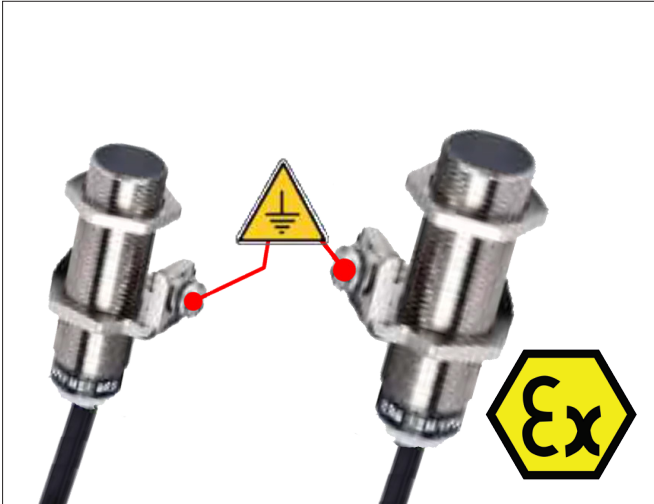
- conformity according to : CE, CSA, UL
- voltage : 12 to 24 V DC
- max. current : 200 mA
- protection : IP 67
- cable type : 3 x 2 m PVC coated 0.14 mm²
- temperature range : -25°C to +70°C
- TOR output : NC
- TOR output type : PNP



PNP - Wiring diagram

Size	Reference group	BADA-VEX size	cable length	cable size	output type	Weight (kg)
M12	NCED	160 to 350	2 m	0.34	PNP	0.10
M18	NCED	400 to 800	2 m	0.14	PNP	0.20

BADA-VEX - ATEX Locking detection sensors



BADA-VEX - ATEX Locking detection sensors

These ATEX sensors are designed to detect the closing of the non-return valve flap within the BADA-VEX ATEX non-return valve and give a signal in case of locking.

They are prewired devices produced according to the EU directives.

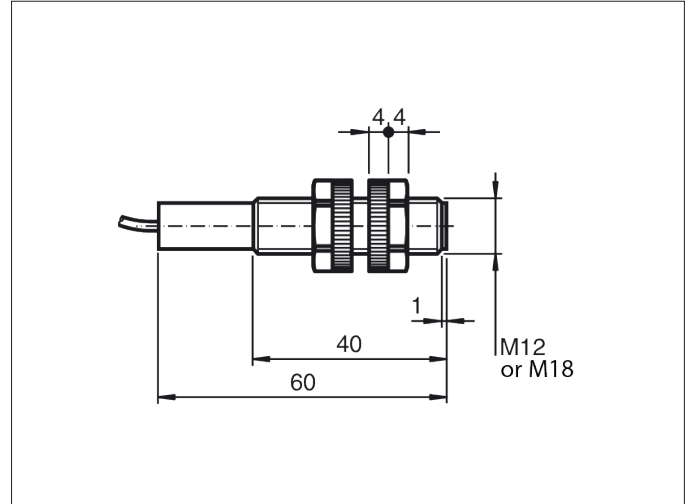
Available in size M12 for non-return valves up to Ø350, and in M18 as of size Ø400.

Protection level

- II 2D Ex tb IIIC T90°C Db

Options

- none



Material

Nickel plated brass housing with M12 or M18 mounting nuts

Type

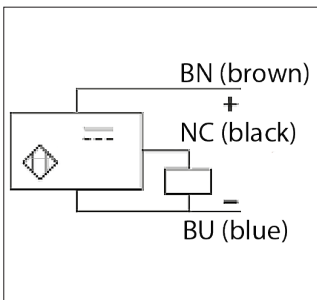
Pre-wired with 3 PVC coated cables with yellow LED

Other information (M12 ATEX version)

- ATEX certification : INERIS 04ATEX0022 / INE 17.0006
- conformity according to : CE, CSA, UL
- voltage : 12 to 48 V DC
- max. current : 200 mA
- protection : IP 68
- cable type : 3 x 10 m PVC coated 0.34 mm²
- temperature range : -20°C to +60°C
- TOR output : NC
- TOR output type : PNP

Other information (M18 ATEX version)

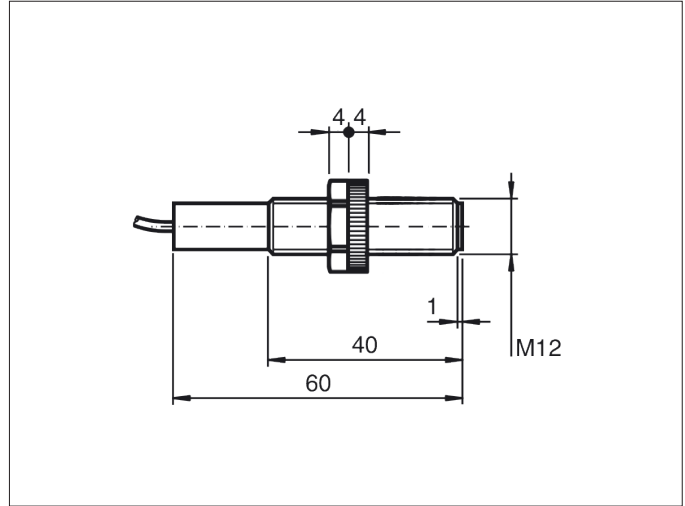
- ATEX certification : INERIS 04ATEX0022 / INE 17.0006
- conformity according to : CE, CSA, UL
- voltage : 12 to 48 V DC
- max. current : 200 mA
- protection : IP 68
- cable type : 3 x 10 m PVC coated 0.34 mm²
- temperature range : -20°C to +60°C
- TOR output : NC
- TOR output type : PNP



PNP - Wiring diagram

Size	Reference group	BADA-VEX size	cable length	cable size	output type	Weight (kg)
M12	NCED	160 to 350	2 m	0.34	PNP	0.10
M18	NCED	400 to 800	2 m	0.14	PNP	0.20

BADA-VEX - ATEX Dust level sensor



BADA-VEX - ATEX Dust level sensor

This ATEX dust level sensor is designed to detect unusual dust deposits on the bottom inside the BADA-VEX ATEX non-return valve which could lead to functioning issues.

The standard BADA-VEX non-return valves are foreseen with a brass M12 plug on the underside of the body designed to fit this sensor.

NAMUR sensors must be used with switching amplifiers approved for this intrinsic safety mode according to EN 60079-11:2012.

Protection level

- II 1D Ex ia IIIIC T101C Da

Options

- none

Material

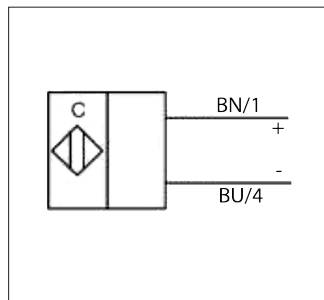
Nickel plated brass housing with M12 mounting nut

Type

Pre-wired with 2 PVC coated cables with yellow LED

Other information

- ATEX certification : DMT 03 ATEX E 048 / BVS 07.0031
- conformity according to : CE, CSA, UL
- voltage : 5 to 15 V DC
- max. current : 1.5 to 2.5 mA
- protection : IP 67
- cable type : 2 x 2 m PVC coated 0.14 mm²
- temperature range : -20°C to +70°C
- output : NAMUR DIN 30947-5-6



Wiring diagram

Size	Reference group	BADA-VEX size	cable length	cable size	output type	Weight (kg)
M12	NCEA	160 to 800	2 m	0.14	NAMUR	0.10