



Particle monitor BDA 02

In many production and thermal processes the process- or exhaust air also contain dust particles of various sizes. To ensure this dust does not enter the environment unchecked, they are separated or retained using suitable filter systems.

Whilst in e.g. manufacturing powdered milk, plastics, soot and fertilisers this primarily means recovering valuable substances, in steel production, the wood industry, in foundries, crematoriums and in the cement industry as well as plasterboard product, just to name some of the possible applications, the focus is on environmental protection.

Since the separation elements in the filter systems used wear due to more or less frequent backwashing, dust breaches or increasing particle emission often occur. In addition to ensuring operating safety in the interest of the owner, TA Luft even requires the use of certified residual dust monitoring equipment for many applications and air exhaust ducts.

The particle monitor BDA 02 is one version in a series for this scope of application.

Unit made in Germany

Robust, low-maintenance technology

Easyjust installation kit for easy installation

German / English menu navigation

Automatic service notification

Zero point and range monitoring

Calibratable (mg/Nm³)

Visual filter condition diagnosis on site

2.5" Graphics display

Suitability-tested technology according to TA-Luft

Low operating costs / high energy efficiency (3 W)

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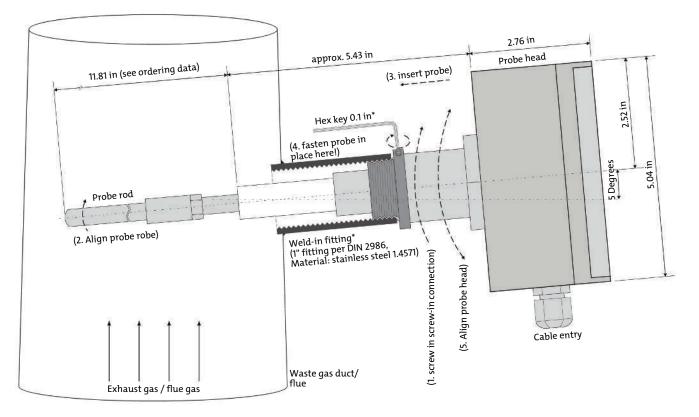


Description

Particle monitors by Bühler are used to monitor filters and separators in normal, moist, non-condensing exhaust gas / processes. They combine progressive signal processing with the proven triboelectric measuring principle. The interaction between particles and the sensor rod result in an electric charge crossing to the sensor rod. This does not require the particles to be in direct contact with the sensor rod. The resulting low current is analysed by the electronics and generates an analogue standard signal proportional to the dust content. The units can be calibrated in mg/m³ through isokinetic reference measurement. This technology is TA Luft approved. The triboelectric measuring process works in flow speeds of 3 m/s and up, and is largely insusceptible to deposits on the sensor rod. Manual amplification adjustment allows the units to be adapted to a variety of systems and applications.

The directly attached control unit features a 2.5" graphics display and the four control keys. The cable inlet along with the Easyjust installation kit are standard components and make installation significantly easier. The menu features two languages - German and English. The graphics display allows for on the monitoring of the filter condition. In addition to the signals for status and limits, the BDA 02 also outputs a signal to notify of service needs.

Installation example



* The fitting is welded to the waste gas flue and the Conversion nipple screwed in tightly. Then insert the BDA 02 all the way and secure in the desired position by socket screw.



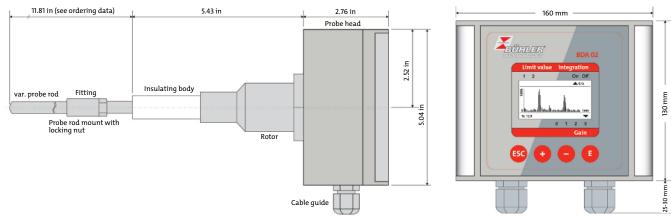
Easyjust installation kit

Dimensions

BDA 02

Side view





Technical data

Technical Data			
Housing:	IP 65 compact unit		
Weight:	approx. 5.5 lb		
Probe:	triboelectric probe consisting of probe rod and probe head		
Probe rod:	insulated from housing, length: variable (mechanically trimmable)		
Probe material: :	Stainless steel 1.4571 (Isolator PTFE)		
Immersion depth	Varies by application (max. 39.37 in)		
Display/Operation:	2.5" graphics display, 4 control keys		
Ambient temperature:	-4122 °F		
Humidity:	not particularly sensitive		
Dew point difference:	min. +5 K		
Sample gas temperature:	max. 482 °F (higher temperatures on request)		
Flow rate:	approx. 3 m/s and up		
Dust measuring range	qualitative: 0100 %; quantitative: 010 mg/m³ (01000 mg/m³)		
Amplification levels:	arbitrary from 0 to 3		
Calibration:	by gravimetric comparison measurements		
Analogue output:	420 mA, galvanically isolated from equipment earth, max. load impedance 500 $\boldsymbol{\Omega}$		
Digital outputs:	3 relays, max. 24 V DC at 0.1 A (for failure, service, required service)		
Process connection:	1" Easyjust/Tri Clamp DN32/Flange 3"/Flange DN25 PN6/DN80 PN6/DN50 PN16/DN65 PN40		
Cable fitting:	2x M20 x 1.5 / 0.350.51 in, 1x dummy plug		
Power supply:	230/110 V AC, 50-60 Hz, 24 V DC		
Performance test:	Technology suitability-tested to TA Luft		

See also

B DE020010 Questionnaire [▶ 4]

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FIU	ieci-	No.:





Gas Analysis

Company		F	Person in char	rge
Company		Ν	Name	
Street			Dept.	
ZIP code, city		F	Phone	
Country		E	Email	
General process info	ormation			
	Industry			
		(e. g.: Metal, Chemistry, Food, Ene	ergy, etc.)	
	Industry sector	(e. g.: Casting, Plastics, Powdered	milk coal-fir	red nower plant etc.)
	Process			
		(e. g.: Drying, Material transport, M	laterial proces	ssing, Material recycling, etc.)
	Filter type			
		(e. g.: Bag filter, Cartidge filter, Cyc	clone, Electro	filter, etc.)
Reason for f	ilter monitoring	(e. a.: Official requirements, active	environment	al protection, process control, filter monitoring, etc.)
Certific	cates / Approvals		environmenta	a protection, process control, inter monitoring, etc.)
	Ex-Zone	Yes No		
	Zone			
Technical Data				
Dı	uct diameter [L1]:	[r	mm]	
Jun	ction length [L2]:	[r	mm]	
Insulatio	on thickness [L3]:	[r	mm]	
Straight leng	th upstream [L4]:	[r	mm]	L5
Straight length o	downstream [L5]:	[r	mm]	
Velocity	v exhaust gas [v]:	Constant? Yes No		$\bigwedge \qquad \stackrel{\checkmark}{\longleftrightarrow} \qquad L2$
		from to [n	n/s]	
Amount of	exhaust gas [V]:	[]	Nm³/h]	→ ← L3
Temp. of	f exhaust gas [T]:		°C]	
Pressure e	xhaust gas [P]:	[[mbar]	L4
Residua	al dust content:	[[mg/Nm³]	← L1 → >
Mater	rial of particles:			
	Particle size:	[µm]	
Re	lative humidity:	[%]	
Water dr	ops contained?	□Yes □No		Duct direction: O horizontal
	Corrosive gas?			\bigcirc vertical flow direction: $\uparrow \downarrow \rightarrow \leftarrow$
,	contonito gao:	Which type:		

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