



# JES-301E1SV

## Ex Gas Sampling Probe with Process Shut-off Valve



**JCT**  
Analysentechnik

### Gas Sampling Probes

Heated Sample Lines

Sample Gas Coolers

Condensate Treatment

Accessories

Gas Conditioning Systems

Sample Gas Converters

images are representative

### APPLICATION

- Representative continuous gas sampling in processes containing dust and humidity
- Installation in Ex-zone 1, 2 or 21, 22
- Hazardous gases
- Pressurized processes
- Extractive gas analysis
- Emission (CEMS) and process monitoring
- Removal of dust from the sample gas

### BENEFITS

- Safety for operator
- No clogging of ball valve
- Efficient use of calibration gas
- No condensation or chemical reactions of sample gas
- Convenient filter replacement
- Low maintenance
- Safe unattended operation
- Easy start-up
- Even for high dust concentrations
- Reliable protection of the analyzer system

### FEATURES

- Full bore ball valve for process shut-off
- Manual and actuator operation of ball valve
- Homogeneous heating without cold spots
- Large active filter surface
- Filtration from outside to inside
- Filter element change without tools
- Different material of filter elements
- Self limiting PTC heater
- Weather protection housing
- Low temperature status contact (intrinsically safe)
- Various options and upgrades
- Wide range of accessories

## TECHNICAL DATA

### Model

**JES-301E1SV**

Description	Stationary explosion proof gas sampling probe with process shut-off valve for Ex-zone 1, 2, 21 or 22
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### Operation

Temperature	max. 120°C
Operating pressure	max. 2 bara (max.7 bara optional)
Flow rate	bis zu 600 NI/h, depending on application
Mounting position	5° to 15° incline (recommended)
Heating-up time	approx. 180 min
Operating range	0°C to 55°C
Ambient temperature	-10°C to 55°C
Mounting position	torsion angle max. 45°
Flow rate (back purging)	approx. 4 Nm <sup>3</sup> /h at 4 bar, 5 Nm <sup>3</sup> /h at 6 bar

### Construction

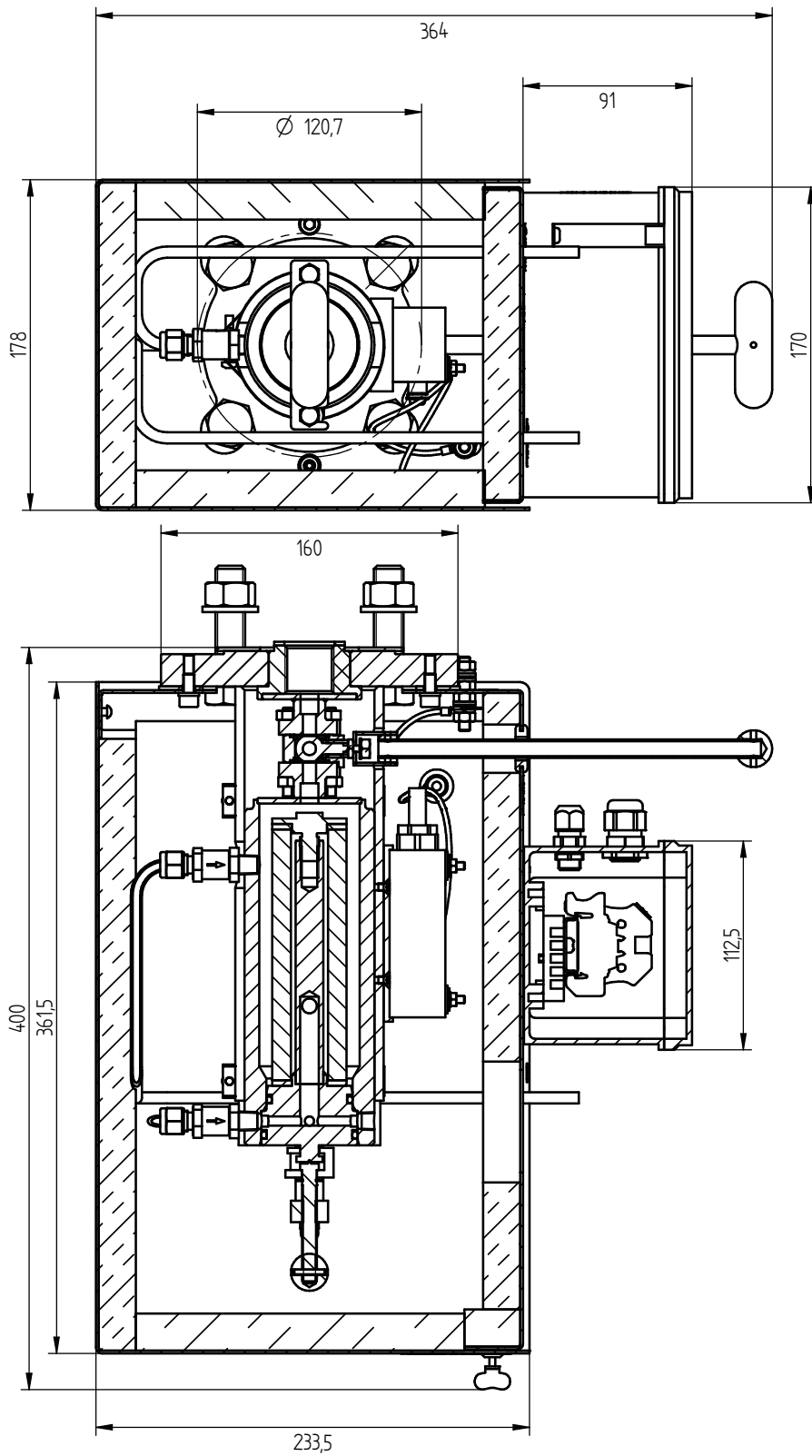
Dimensions over all ( W x H x D )	178 x 364 x 401 mm
Dimensions connection box ( W x H x D )	170 x 120 x 90 mm
Filter element	2 µm ceramic or 0,2 µm ceramic coated
Active filter surface	170 cm <sup>2</sup>
Mounting flange	DN 65, PN6; form A according to EN 1092-1; SS316L or 2" ANSI 150 lbs; according to ASME B16.5
Process shut-off valve	temp. max. 200°C at 7 bar
Sample gas inlet	G 3/4" female thread
Sample gas outlet	1/8" NPT female thread
Calibration gas connection (option)	pipe 6 mm, SS316
Back purge connection (option)	pipe 6 mm, SS316
Gas wetted materials	SS316L, ceramic, Viton®
Heating element	PTC, self limiting
Protection class	heating: IP68 probe: IP43 connection box: IP66/67
Type of protection	heating:  II 2 G Ex d IIC T3 /  II 2 D Ex tD A21 IP65 T200°C connection box:  II 2G Ex e II T6/T5 /  II 2D Ex tD A21 IP66 T80°C/T95°C connection box low temperature contact:  II 2G Ex eb ia ib IIC T5 Gb /  II 2D Ex tb IIIC T95°C Db
Weight	ca. 14,5 kg
Weather protection housing	SS304, thermal insulated, colour stainless steel natural
Approvals / signs	heating: PTB 02 ATEX 1116X; IECEx PTB 07.0055X connection box: PTB 01 ATEX 1016; LCIE 02 ATEX 6240; IECEx PTB 06.0046 / CE

### Electrics

Power supply	115 to 230 VAC 50/60 Hz
Power consumption	approx. 80 W
Inrush current	approx. 2 A
On time	100 %
Electrical connection	Cable gland M20 x 1,5 / screw type terminals, clamping range 0,2 to 4 mm <sup>2</sup>
Low temperature contact (option)	intrinsically safe, NT = 75°C (NO at AT), max. 60 VAC, 1A, min. 5 VDC / 1 mA cable gland M16 x 1,5
Fusing	external, on installation site

# DIMENSIONS

Dimensions in mm



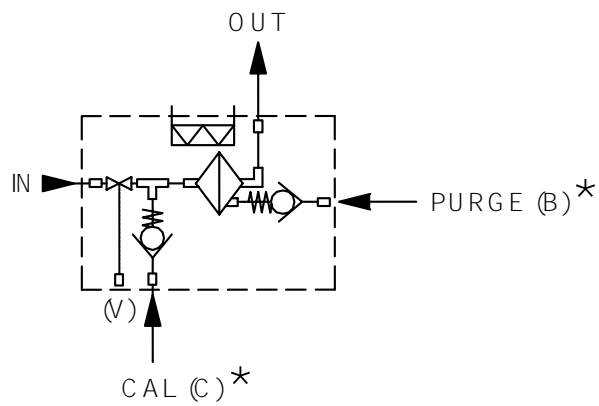
## ORDER CODE

Part No.	Model	Filter			Options				Flange		Power supply	Ex-zone	
		Heated to 120°C	2 µm ceramic	0,2 µm ceramic coated	Back purge port *1	Calibration port *1	self-limited	Weather protection housing	Process shut-off valve	DN65/PN6	2" ANSI	115 to 230 VAC 50/60Hz	Ex-zone 1, 2, 21 or 22
35.00439	JES-301E1SV	X	X				X	X	X	X		X	X
35.00440	JES-301E1BSV	X		X	X		X	X	X	X		X	X
35.00441	JES-301E1CSV	X	X			X	X	X	X	X		X	X
35.00443	JES-301E1BCSV	X		X	X	X	X	X	X	X		X	X
35.00412	JES-301E1SVZ	X	X				X	X	X		X	X	X
35.00424	JES-301E1BSVZ	X		X	X		X	X	X		X	X	X
35.00444	JES-301E1CSVZ	X	X			X	X	X	X		X	X	X
35.00445	JES-301E1BCSVZ	X		X	X	X	X	X	X		X	X	X

Models with low temperature contact		Filter			Options				Flange		Power supply	Ex-zone		
Part No.	Model	Heated to 120°C	2 µm ceramic	0,2 µm ceramic coated	Back purge port *1	Calibration port *1	self-limited	Weather protection housing	Process shut-off valve	Low temperature contact	DN65/PN6	2" ANSI	115 to 230 VAC 50/60Hz	Ex-zone 1, 2, 21 or 22
35.00426	JES-301E1OSV	X	X				X	X	X	X	X		X	X
35.00434	JES-301E1BOSV	X		X	X		X	X	X	X	X		X	X
	JES-301E1COSV	X	X			X	X	X	X	X	X		X	X
35.00431	JES-301E1BCOSV	X		X	X	X	X	X	X	X	X		X	X
35.00436	JES-301E1OSVZ	X	X				X	X	X	X		X	X	X
35.00437	JES-301E1BOSVZ	X		X	X		X	X	X	X		X	X	X
35.00438	JES-301E1COSVZ	X	X			X	X	X	X	X		X	X	X
35.00430	JES-301E1BCOSVZ	X		X	X	X	X	X	X	X		X	X	X

Scope of delivery: sampling probe, mounting material, flange gasket, gasket for sampling pipe, operating manual  
 \*1...with non-return valve

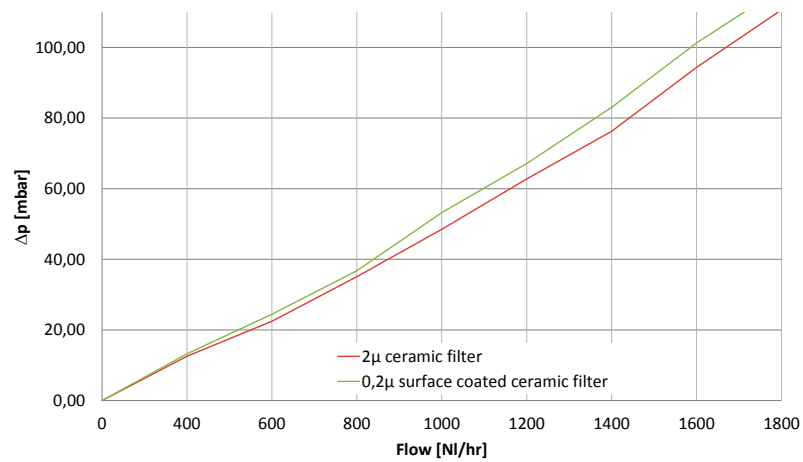
## GAS FLOW DIAGRAM



\*... not included in all models

## PRESSURE CHARACTERISTICS

**Pressure characteristics in dependence of the gas flow  
(for new filter element and 20 °C)**



## UPGRADE OPTIONS AND ACCESSORIES

Put together a sampling probe exactly according to your requirements by choosing additional modules, eg. solenoid valves, controllers and air accumulators.

Please refer to this separate product data sheet for further information:

- **Upgrade Options for JES-301E1 Ex Gas Sampling Probes**

Filter elements in various materials

Dilution units

Additional heater elements

PT100 temperature sensor

Back purge control valves

Ball valves for sample gas inlets and outlets

Air accumulators

GRP-ATEX instrument enclosure

**JCT** Analysentechnik GmbH offers a wide range of accessories. Please refer to separate data sheets for further information:

- **JER Sampling Pipes and JHD Pre-Filters**

Sampling pipes in various materials and lengths

In-Situ pre-filter in various materials

Extension pipes in various materials

- **JES-301KE1 Back Purge Control Unit**

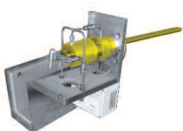
- **JES-301 Accessories**

Flange adapters

Accessories for gas connections

Accessories for heated sample lines

Gas Sampling **Probes**



Heated Sample **Lines**



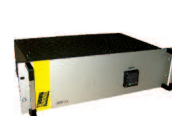
Sample Gas **Coolers**



Gas Conditioning **Systems**



NOx **Converter**



and **solutions** for

