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System questionnaire (CEMS II *e*)

Author: EJy Date: 19.4.2017 ID no: 4085

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Checked by: MSu, RVu Accepted by: MAh Current status: Approved In order to quote and deliver a CEM system, the following questionnaire should be filled. Only accurate and sufficient information will result in a correctly configured system. Please fill a separate questionnaire for each different application and measuring points.

The questionnaire is separated into two parts. First part should be filled when requesting a quotation. The whole document, including the second part, should be filled and sent with a purchase order. The order will be confirmed only after the filled questionnaire is received.

Part 1 Questionnaire for quotation

Please fill this part when requesting a quotation. For system feasibility and final quotation, process conditions and required system parts must be specified. All required fields are marked with (*).

1.1 Customer & project information

Company details	Contact person details
Company name*:	Name*:
Address*:	Phone number*:
Website:	Email address:
Project details	Application details
Project reference:	Process type*:
Plant location*:	Fuel type:

System is needed for*:	Emissions monitoring	Process control	Other, specify:
If Emissions monitoring was o	chosen, specify which laws or star	ndards should be complied	l with:
	EN15267-3 / QAL1	Other, specify:	

1.2 System parts and technical details*

Mains supply:	230 V/400 V, 50 Hz	115 V/20	08 V, 60 Hz	Other:	V,	Hz
Probe needed:	Yes	No				
Sample line needed:	Yes	No	Sample line from μ	probe to CEMS II	e cabinet	
Length of sample line from	probe to cabinet (m):		Note: 1.5 m of hea	ited line is neede	d inside the C	EMS II e cabinet

In case of an existing sample line, specify the following technical details:

Temperature (°C):	Power consumption (W/m)	:	Voltage (V):	, 3-phase
Sensor type:	k-type	Pt-100		

Additional options for CEMS II e (choose the options to be included in the quotation):

Oxygen measurement (Oxygen analyzer)

QAL1 certified TOC measurement with FID (GFID)

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Required output options:	Modbus RTU	Modbus RTU	Modbus TCP/IP	Profibus DP
	(RS232)	(RS422/485)		

1.3 Sample gas matrix

The accuracy of the application can be guaranteed only when the concentrations of all gas components in the gas matrix are known. The gas components for which result outputs are required should be specified in the last column.

	Compound name*	Required range*	Minimum value	Typical value	Maximum value*	Unit*	Result output required (x)
	For example, Sulphur dioxide SO ₂	0-100	10	50	200	ррт	х
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
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23.							
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26.							
27.							
28.							
29.							
30.							

1.4 Process conditions at sampling point*

Sample gas properties	Typical value	Range	e (min-ma	ax)	Unit
Example, Temperature	360	320	-	400	°C
Temperature			-		°C
Pressure			-		mbar
Velocity			-		m/s
Dust load			-		mg/Nm ³
Dust particle size			-		microns
Risk of condensation:	No		Yes, spe	cify dew p	oint if known (°C):
Ex-classification:	No		Yes, spe	cify in Sec	tion 1.6

1.5 Other measuring needs and duct information (fill only if other systems than CEMS needed)

	Measuring rai	nge	
Mercury monitoring system	0 -	µg/m³	
Dust monitor	0 -	mg/m ³	
Flow meter	0 -	m/s	
Temperature sensor	0 -	°C	
Pressure sensor		(min) -	(max) mbar (gauge)
Data Acquisition and Handling	g System (DAHS	5)	

Choose the systems & devices to be included in the quotation:

A	B	с	Duct inner diameter (A): Wall thickness (B): Insulation thickness (C): Duct material:	mm mm mm	
		4	Duct position:	Horizontal	Vertical
Flo	ection		Mounting flanges required:	Yes	No
			If mounting flanges exist on site	e, please speci	ify technical details
			(flange type, thickness/dimensi	ons) in Sectio	n 1.6.
			Size of measuring platform:	х	m
			Interference free distance insid	le the stack:	before measuring point
					after measuring point
In case of flow and/o	or dust meters, fil	ll out t	he following details		

Flue gas cleaning type:	Electrostatic precipitator (ESP)	Baghouse	Wet scrubber		
Purge air fan (if needed):	3-phase, 230 V/400 V, 50 Hz	115 V/208 V, 60 Hz	Other:	V <i>,</i>	Hz

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1.6 Additional information

All additional information about the process, requirements and special details can be written here.

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Part 2 CEMS Purchase order details

Please note that only Part 1 is needed for a quotation. Part 2 should be filled and sent with a purchase order. The order will only be confirmed after the filled questionnaire is received.

2.1 CEMS II e system cabinet & door opening directions

CEMS II e cabinet options (choose one of the following):

Cabinet A with air conditioning (A/C) unit on top, $2120 \times 610 \times 700$ mm (H x W x D), (CAB-SYS-002) 4 RU (rack unit) of free space for another optional analyzer

Cabinet B, bigger cabinet with A/C unit on the backdoor, $2100 \times 610 \times 1130$ mm (H x W x D), (CAB-SYS-003) 8 RU of free space for other optional analyzers

Door opening directions (choose one of the following)



2.2 CEMS II e system system parts

Standard system parts (included):

	Terminal plate for power supply (TN-S) and I/O terminals	Gasmet CEMS II e sampling system
	Display	Gasmet FTIR gas analyzer
	Gasmet industrial computer & Calcmet software	
Other s	stem parts (check the options to be included).	
Other sy	stem parts (check the options to be included).	
	Gasmet oxygen analyzer (OXY-380)	

Gasmet GFID analyzer

UPS for Gasmet FTIR, PC and oxygen analyzer (CAB-OPT-112)

1-meter heated sample line, e.g. for OXY-380 (SAM-LIN-001)

Separate heated line controller, e.g. for FID (LIN-OPT-100)

Wheels for the cabinet (CAB-OPT-120)

SS-316 sampling system filter, required for compliance according to EN15267-3 / QAL1 (SAM-FIL-009)

PTFE filter for M&C SP2000-H probe, required for compliance according to EN15267-3 / QAL1 (SMP-FILT-784)

Other, please specify:

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2.3 Span gas inlet information and data outputs & inputs

Number of span gas inlets:	One (standard)	Options: 4, 8, 12 or 16 pcs, specify how many:
Span gas to probe:	No (standard)	Yes

Data outputs & inputs

8 pcs of analog inputs 4-20 mA as standard, can be used e.g. for external analyzers

16 pcs of digital inputs 24 VDC as standard, can be used e.g. for external analyzer status signals

16 pcs of analog outputs 4-20 mA as standard, can be used e.g. for gas concentration results

16 pcs of digital outputs 24 VDC as standard, can be used e.g. for custom alarms

Please note that one of the digital output signals is always reserved for oxygen analyzer

2.4 Additional information

All additional information, special details and requests can be written here if not yet specified in Section 1.6.

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