DATA SHEET FOR ANALYZER OF CONTINUOUS EMISSION MONITORING SYSTEM

Job no. : 25PBEB32501/1

No.	Item		Units	Value		
1	**GENERAL :**					
2	Tag number			TK20HNA10 CQ001 -B01		
3	Service			BOILER K20 CEMS - O2		
4	Line Number	Line dimension		K20HNA10BR010	2490x1690	
5	Analyzer Cabinet Nbr.			TK20CFF11		
6	P.E.F.S. dwg. number			24LT7P-01-EO-004		
7	Critical to					
8	**ANALYSER :**					
9	Analyzer system method			Extraction		
10	Analyzed components			Oxygen O2		
11	Measuring principle			Paramagnetic		
12	Sample conditioner	Sample cooler		Yes	Yes	
13	Local Indicator / Display			Yes		
14	Accuracy	Respons Time				
15	Power supply	from		230 Vac	UPS	
16	Isolated I/O	HART		Yes		
17	List of Output signals					
18	Analyzer cell 1 range Min / Max		%V	0	20	
19	Analyzer cell 2 range Min / Max		%V			
20	Calibration 1 range Min / Max		%V	0	15	
21	Calibration 2 range Min / Max		%V			
22	Cross sensitivity of component			NO		
23	Analyzer Model Code			Vendor		
24	Communication type			RS485		
25	AMS type	AMS Location		Vendor	Anal.Cabinet	
26	Calibration	Purging		QAL 1 + AUTO	Vendor	
27	**SAMPLING SYSTEM ACESSORIES:**			PART OF CEMS		
28	NO2 / NO Converter Type					
29	Sample pump	Filters		YES		
30	Rotameter Type	Flow Scale		YES		
31	CEMS Cabinet type			RITTAL /		
32	CEMS Cabinet conditioner			Safe area / Indoor		
33						
34	**PROCESS CONDITIONS:**					
35	Medium / phase					
36	**Mech. impurities, Erosion, Corrosion**					
37	Component concentration		Unit	**Min**	**Norm**	**Max**
38	O2		Vol %	0,8	2,8	4
39	CO		Vol %	0,003	0,004	
40	CO2		Vol %	7,5	8,5	9,0
41	NOx		Vol %			
42	SO2		Vol %			
43	NH3		Vol %			
44	Toxic due to					
45	Operating conditions			**Min**	**Nor**	**Max**
46	Flow		Nm^3/h	42000	158000	159000
47	Pressure		kPa-g	-2	5	15
48	Temperature		°C	82	100	110
49	Sample Flow					
50	Particles/Dust			0 - 4 mg/Nm3		
51	Humidity			17,5 - 22,5 Vol%		
52	Vibration					
53						
54	**PURCHASE DATA:**					
55	Manufacturer					
56	Model type					
57	Serial number					
58	Model Order Code 1-st part					
59	Model Order Code 2-nd part					

No.	Item		Units	Value	
60	**GENERAL :**				
61	Area / Unit			KOTELNA T700 / KOTEL K20	
62	Location / Analyzer House			AH /	
63	Flammable atm. / Zone			Safe Area	
64					
65	Ambient temperature		°C		
66	Tech. Location				
67	**SAMPLE PROBE/TAKE-OFF :**				
68	Tag Number – Sample probe				
69	Sample probe Model			Vendor	
70	Probe Connection	Probe Material			316SS
71	Heating Temperature	Temp. Control		180°C	Yes
72	Probe insertion length		mm	1300	
73	Probe Explosion prot. certificate			NO	
74	Ambient Conditions-Temperat./Humidity			-33 / +50°C - 100%	
75					
76	**SAMPLE LINE/HOSE:**				
77	Sample line/hose model			Vendor	
78	Heating temperature	Controled		180°C	YES
79	Power supply	Power Consumption		230Vac	
80	Sample line length		m	15-20	
81	Outer jacket material		mm	40-50	
82	Type of Protection - Certificate				
83	Air purging			Vendor	
84	Ambient Conditions-Temperat./Humidity			-33 / +50°C - 100%	
85					
86					
87					
88					
89	**ACCESSORIES :**				
90	Calibration gas mixtures			By Vendor	
91	Cal.gas Bottles			Option	
92	PCV / Flow Control			Option	
93					
94					
95					
96					
97	**SPECIAL REQUIREMENTS :**				
98	AMS requirements			Vendor	
99	AMS Connection			RS485	
100	QAL certificate / requirements			QAL 1	
101	Competent authority			YES	
102	Environmental requirements				
103	Explosion prot. certificate			NO	
104	Special req. for service				
105					
106	**NON-VENDOR RELATED INFO:**				
107	Winterizing / Heating			YES	
108	Tracing temperature		°C		
109	Grid position / Elevation		/m	/ 6.0	
110	Design code				
111	SAP number				
112	UV3 number				
113	**REMARKS:**				
114					
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118					

Eng. by: V.JAROŠ	Req. no. 24LT7P-00-IQ-132	Checked by / Date /	REV. 0A
Principal: ORLEN Unipetrol RPA s.r.o. ČR			
Consignee: ORLEN Projekt Česká republika s.r.o.	Doc. number 24LT7P-01-IS-132	1 / 4	Date: 21.5.2026

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Job no. : 25PBEB32501/1

No.	Item		Units	Value		
1	**GENERAL :**					
2	Tag number			TK20HNA10 CQ002 -B01		
3	Service			BOILER K20 CEMS - CO		
4	Line Number	Line dimension		K20HNA10BR010	2490x1690	
5	Analyzer Cabinet Nbr.			TK20CFF11		
6	P.E.F.S. dwg. number			24LT7P-01-EO-004		
7	Critical to					
8	**ANALYSER :**					
9	Analyzer system method			Extraction		
10	Analyzed components			CO		
11	Measuring principle			NDIR		
12	Sample conditioner	Sample cooler		Yes	Yes	
13	Local Indicator / Display			Yes		
14	Accuracy	Respons Time				
15	Power supply	from		230 Vac	UPS	
16	Isolated I/O	HART		Yes		
17	List of Output signals					
18	Analyzer cell 1 range Min / Max		PPMV	0	200	
19	Analyzer cell 2 range Min / Max		PPMV	0	500	
20	Calibration 1 range Min / Max		PPMV	0	200	
21	Calibration 2 range Min / Max		PPMV	0	500	
22	Cross sensitivity of component			NO		
23	Analyzer Model Code			Vendor		
24	Communication type			RS485		
25	AMS type	AMS Location		Vendor	Anal.Cabinet	
26	Calibration	Purging		QAL 1 + AUTO	Vendor	
27	**SAMPLING SYSTEM ACESSORIES:**			PART OF CEMS		
28	NO_2 / NO Converter Type					
29	Sample pump	Filters		YES		
30	Rotameter Type	Flow Scale		YES		
31	CEMS Cabinet type			RITTAL /		
32	CEMS Cabinet conditioner			Safe area		
33						
34	**PROCESS CONDITIONS:**					
35	Medium / phase					
36	**Mech. impurities, Erosion, Corrosion**					
37	Component concentration		Unit	**Min**	**Norm**	**Max**
38	O_2		Vol %	0,5	0,8	3,5
39	CO		Vol %	0,0	0,04	0,1
40	CO_2		Vol %	6	7,5	9,0
41	NO_x		Vol %			
42	SO_2		Vol %	0	0	0
43	NH_3		Vol %	0	0	0
44	Toxic due to					
45	Operating conditions			**Min**	**Nor**	**Max**
46	Flow		Nm³/h	42000	158000	159000
47	Pressure		kPa-g	-2	5	10
48	Temperature		°C	85	98	110
49	Sample Flow					
50	Particles/Dust			0 - 4 mg/Nm3		
51	Humidity			17,5 - 22,5 Vol%		
52	Vibration					
53						
54	**PURCHASE DATA:**					
55	Manufacturer					
56	Model type					
57	Serial number					
58	Model Order Code 1-st part					
59	Model Order Code 2-nd part					

No.	Item		Units	Value	
60	**GENERAL :**				
61	Area / Unit			KOTELNA T700 / KOTEL K20	
62	Location / Analyzer House			AH /	
63	Flammable atm. / Zone			Safe Area	
64					
65	Ambient temperature		°C		
66	Tech. Location				
67	**SAMPLE PROBE/TAKE-OFF :**				
68	Tag Number – Sample probe				
69	Sample probe Model			Vendor	
70	Probe Connection	Probe Material			
71	Heating Temperature	Temp. Control		180°C	Yes
72	Probe insertion length		mm	1300	
73	Probe Explosion prot. certificate			NO	
74	Ambient Conditions-Temperat./Humidity			-33 / +50°C - 100%	
75					
76	**SAMPLE LINE/HOSE:**				
77	Sample line/hose model			Vendor	
78	Heating temperature	Controled		180°C	YES
79	Power supply	Power Consumption		230Vac	
80	Sample line length		m	15	
81	Outer jacket material		mm	40-50	
82	Type of Protection - Certificate				
83	Air purging			Vendor	
84	Ambient Conditions-Temperat./Humidity			-33 / +50°C - 100%	
85					
86					
87					
88					
89	**ACCESSORIES :**				
90	Calibration gas mixtures				
91	Cal.gas Bottles				
92					
93					
94					
95					
96					
97	**SPECIAL REQUIREMENTS :**				
98	AMS requirements			Vendor	
99	AMS Connection				
100	QAL certificate / requirements			QAL 1	
101	Competent authority			YES	
102	Environmental requirements				
103	Explosion prot. certificate			NO	
104	Special req. for service				
105					
106	**NON-VENDOR RELATED INFO:**				
107	Winterizing / Heating			YES	
108	Tracing temperature		°C		
109	Grid position / Elevation		/m	/ 6.0	
110	Design code				
111	SAP number				
112	UV3 number				
113	**REMARKS:**				
114					
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117					
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Eng. by: V.JAROŠ	Req. no. 24LT7P-00-IQ-132	Checked by / Date /	REV. 0A	
Principal: ORLEN Unipetrol RPA s.r.o. ČR				
Consignee: ORLEN Projekt Česká republika s.r.o.	Doc. number 24LT7P-01-IS-132	2 / 4	Date: 21.5.2026	

DATA SHEET FOR ANALYZER OF CONTINUOUS EMISSION MONITORING SYSTEM

Job no. : 25PBEB32501/1

No.	Description		Units	Value		
1	**GENERAL :**					
2	Tag number			TK20HNA10 CQ003 -B01		
3	Service			BOILER K20 CEMS - NOx		
4	Line Number	Line dimension		K20HNA10BR010	2490x1690	
5	Analyzer Cabinet Nbr.			TK20CFF11		
6	P.E.F.S. dwg. number			24LT7P-01-EO-004		
7	Critical to					
8	**ANALYSER :**					
9	Analyzer system method			Extraction + Conversion		
10	Analyzed components			NO + NO_2		
11	Measuring principle			NDIR		
12	Sample conditioner	Sample cooler		Yes	Yes	
13	Local Indicator / Display			Yes		
14	Accuracy	Respons Time				
15	Power supply	from		230 Vac	UPS	
16	Isolated I/O	HART		Yes		
17	List of Output signals					
18	Analyzer cell 1 range Min / Max		PPMV	0	300	
19	Analyzer cell 2 range Min / Max		PPMV	0	1000	
20	Calibration 1 range Min / Max		PPMV	0	200	
21	Calibration 2 range Min / Max		PPMV	0	800	
22	Cross sensitivity of component			NO		
23	Analyzer Model Code			Vendor		
24	Communication type			RS485		
25	AMS type	AMS Location		Vendor	Anal.Cabinet	
26	Calibration	Purging		QAL 1 + AUTO	Vendor	
27	**SAMPLING SYSTEM ACESSORIES:**			PART OF CEMS		
28	NO_2 / NO Converter Type					
29	Sample pump	Filters		YES		
30	Rotameter Type	Flow Scale		YES		
31	CEMS Cabinet type			RITTAL /		
32	CEMS Cabinet conditioner			Safe area		
33						
34	**PROCESS CONDITIONS:**					
35	Medium / phase					
36	**Mech. impurities, Erosion, Corrosion**					
37	Component concentration		Unit	**Min**	**Norm**	**Max**
38	O_2		Vol %	0,5	2	10
39	CO		Vol %	0,0	0,04	0,1
40	CO_2		Vol %	6	7,5	9,0
41	NOx		Vol %			
42	SO_2		Vol %	0	0	0
43	NH_3		Vol %	0	0	0
44	Toxic due to					
45	Operating conditions			**Min**	**Nor**	**Max**
46	Flow		Nm³/h	42000	158000	159000
47	Pressure		kPa-g	-5	5	10
48	Temperature		°C	85	98	110
49	Sample Flow					
50	Particles/Dust					
51	Humidity					
52	Vibration					
53						
54	**PURCHASE DATA:**					
55	Manufacturer					
56	Model type					
57	Serial number					
58	Model Order Code 1-st part					
59	Model Order Code 2-nd part					

No.	Description		Units	Value	
60	**GENERAL :**				
61	Area / Unit			KOTELNA T700 / KOTEL K20	
62	Location / Analyzer House			AH /	
63	Flammable atm. / Zone			Safe Area	
64					
65	Ambient temperature		°C		
66	Tech. Location				
67	**SAMPLE PROBE/TAKE-OFF :**				
68	Tag Number – Sample probe				
69	Sample probe Model			Vendor	
70	Probe Connection	Probe Material			
71	Heating Temperature	Temp. Control		180°C	Yes
72	Probe insertion length		mm	1300	
73	Probe Explosion prot. certificate			NO	
74	Ambient Conditions-Temperat./Humidity			-33 / +50°C - 100%	
75					
76	**SAMPLE LINE/HOSE:**				
77	Sample line/hose model			Vendor	
78	Heating temperature	Controled		180°C	YES
79	Power supply	Power Consumption		230Vac	
80	Sample line length		m	15	
81	Outer jacket material		mm	40-50	
82	Type of Protection - Certificate				
83	Air purging			Vendor	
84	Ambient Conditions-Temperat./Humidity			-33 / +50°C - 100%	
85					
86					
87					
88					
89	**ACCESSORIES :**				
90	Calibration gas mixtures				
91	Cal.gas Bottles				
92					
93					
94					
95					
96					
97	**SPECIAL REQUIREMENTS :**				
98	AMS requirements			Vendor	
99	AMS Connection				
100	QAL certificate / requirements			QAL 1	
101	Competent authority			YES	
102	Environmental requirements				
103	Explosion prot. certificate			NO	
104	Special req. for service				
105					
106	**NON-VENDOR RELATED INFO:**				
107	Winterizing / Heating			YES	
108	Tracing temperature		°C		
109	Grid position / Elevation		/m	/ 6.0	
110	Design code				
111	SAP number				
112	UV3 number				
113	**REMARKS:**				
114					
115					
116					
117					
118					

Eng. by:	V.JAROŠ	Req. no. 24LT7P-00-IQ-132	Checked by / Date /	REV. 0A
Principal:	ORLEN Unipetrol RPA s.r.o. ČR			
Consignee:	ORLEN Projekt Česká republika s.r.o.	Doc. number 24LT7P-01-IS-132	3 / 4	Date: 21.5.2026

DATA SHEET FOR ANALYZER OF CONTINUOUS EMISSION MONITORING SYSTEM

Job no. : 25PBEB32501/1

No.	Item		Units			
1	**GENERAL :**					
2	Tag number			TK20HNA10 CQ005 -B01		
3	Service			BOILER K20 CEMS - SO2		
4	Line Number	Line dimension		K20HNA10BR010	2490x1690	
5	Analyzer Cabinet Nbr.			TK20CFF11		
6	P.E.F.S. dwg. number			24LT7P-01-EO-004		
7	Critical to					
8	**ANALYSER :**					
9	Analyzer system method			Extraction		
10	Analyzed components			SO2		
11	Measuring principle			NDIR		
12	Sample conditioner	Sample cooler		Yes	Yes	
13	Local Indicator / Display			Yes		
14	Accuracy	Respons Time				
15	Power supply	from		230 Vac	UPS	
16	Isolated I/O	HART		Yes		
17	List of Output signals					
18	Analyzer cell 1 range Min / Max		PPMV	0	100	
19	Analyzer cell 2 range Min / Max		PPMV			
20	Calibration 1 range Min / Max		PPMV	0	100	
21	Calibration 2 range Min / Max		PPMV			
22	Cross sensitivity of component			NO		
23	Analyzer Model Code			Vendor		
24	Communication type			RS485		
25	AMS type	AMS Location		Vendor	Anal.Cabinet	
26	Calibration	Purging		QAL 1	Vendor	
27	**SAMPLING SYSTEM ACESSORIES:**			PART OF CEMS		
28	NO2 / NO Converter Type					
29	Sample pump	Filters		YES		
30	Rotameter Type	Flow Scale		YES		
31	CEMS Cabinet type			RITTAL /		
32	CEMS Cabinet conditioner			Safe area		
33						
34	**PROCESS CONDITIONS:**					
35	Medium / phase					
36	**Mech. impurities, Erosion, Corrosion**					
37	Component concentration		Unit	**Min**	**Norm**	**Max**
38	O2			0,5	2	10
39	CO			0,0	0,04	0,1
40	CO2			6	7,5	9,0
41	NOx					
42	SO2			0	0	0
43	NH3			0	0	0
44	Toxic due to					
45	Operating conditions			**Min**	**Nor**	**Max**
46	Flow					
47	Pressure					
48	Temperature					
49	Sample Flow					
50	Particles/Dust					
51	Humidity					
52	Vibration					
53						
54	**PURCHASE DATA:**					
55	Manufacturer					
56	Model type					
57	Serial number					
58	Model Order Code 1-st part					
59	Model Order Code 2-nd part					

No.	Item		Units		
60	**GENERAL :**				
61	Area / Unit			KOTELNA T700 / KOTEL K20	
62	Location / Analyzer House			AH /	
63	Flammable atm. / Zone			Safe Area	
64					
65	Ambient temperature		°C		
66	Tech. Location				
67	**SAMPLE PROBE/TAKE-OFF :**				
68	Tag Number – Sample probe				
69	Sample probe Model			Vendor	
70	Probe Connection	Probe Material			
71	Heating Temperature	Temp. Control		180°C	Yes
72	Probe insertion length		mm	1300	
73	Probe Explosion prot. certificate			NO	
74	Ambient Conditions-Temperat./Humidity			-33 / +50°C - 100%	
75					
76	**SAMPLE LINE/HOSE:**				
77	Sample line/hose model			Vendor	
78	Heating temperature	Controled		180°C	YES
79	Power supply	Power Consumption		230Vac	
80	Sample line length		m	15	
81	Outer jacket material		mm	40-50	
82	Type of Protection - Certificate				
83	Air purging			Vendor	
84	Ambient Conditions-Temperat./Humidity			-33 / +50°C - 100%	
85					
86					
87					
88					
89	**ACCESSORIES :**				
90	Calibration gas mixtures				
91	Cal.gas Bottles				
92					
93					
94					
95					
96					
97	**SPECIAL REQUIREMENTS :**				
98	AMS requirements			Vendor	
99	AMS Connection				
100	QAL certificate / requirements			QAL 1	
101	Competent authority			YES	
102	Environmental requirements				
103	Explosion prot. certificate			NO	
104	Special req. for service				
105					
106	**NON-VENDOR RELATED INFO:**				
107	Winterizing / Heating			YES	
108	Tracing temperature		°C		
109	Grid position / Elevation		/m	/ 6.0	
110	Design code				
111	SAP number				
112	UV3 number				
113	**REMARKS:**				
114					
115					
116					
117					
118					

Eng. by:	V.JAROŠ	Req. no. 24LT7P-00-IQ-132	Checked by / Date /	REV. 0A
Principal:	ORLEN Unipetrol RPA s.r.o. ČR	Doc. number 24LT7P-01-IS-132	4 / 4	Date: 21.5.2026
Consignee:	ORLEN Projekt Česká republika s.r.o.			