



Project

Gas analyzing stations installed in FGD

Technical specification

Name

Delivery of the spare parts for gas analyzing stations

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1. SCOPE OF WORK

The scope of work includes the following activities \ supplies:
Delivery of the spare parts for gas analyzing stations.

2. GENERAL CHARACTERISTICS OF THE POWER PLANT

The general design and operating parameters of the power station are as follows:
TPP ContourGlobal Maritsa East 3 is situated at approximately 60 km to the south east of Stara Zagora, 10 km to the south east of Galabovo and 2 km to the North of the Mednikarovo village, Haskovo District, near Troyanovo-3 Opencast Mine.

GPS: N-42.143321 and E-26.000856

Reference values of ambient parameters:

- Atmospheric pressure 1004.5 hPa
- Ambient air temperature (max): 45°C
- Ambient air temperature (min): -28.5°C
- Nominal relative humidity: 73%
- Maximal relative humidity: 100%
- Minimal relative humidity: 14%

3. ACCESS IN TPP CONTOUR GLOBAL MARIZA EAST 3

3.1 WORKING TIME

The working time at the plant is 24/7. The working time of the warehouse is from Monday to Friday from 8:30 to 15:00. Access is strictly forbidden to the people of the external companies in nonworking hours of the regular shift - before 7:30 am and after 16:00 pm from Monday to Friday and on Saturday and Sunday.

3.2 RULES FOR ENTERING THE POWER STATION DURING DELIVERIES OF GOODS

- When letters, packages or low-volume goods, which can be carried by hand, are delivered, they shall be given to the security guards at the main gate, whose duty is to hand them over to the recipient. If the person who has delivered the goods has to enter the power plant, they shall be issued a temporary pass, giving them access to the power plant to supply the goods to the recipient or to the storehouse.
- Upon delivery of goods by way of a motor vehicle, the procedure shall be as follows: The driver shall submit payment documentation, specifications, supply contracts and other documents, confirming that the goods enter CGME3 or CGOB under a contract. A document shall be filled out at the gate and then signed by the Manager of Health, Safety and Security Department.
- Vehicles with dirty tyres or loads which have not been secured properly shall not be allowed on or outwith the premises of the power plant.
- During loading - unloading operations, the vehicle driver shall be obliged to use PPE, which are mandatory for working on the premises of the TPP - a hard hat, protective footwear and suitable work clothes.
- Drivers of motor vehicles transporting volatile or easily dispersible materials shall be obliged to put tarpaulins over the vehicle body.

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- Drivers of motor vehicles on the territory of the power plant shall steer, halt and park their vehicles in a way which will not obstruct the movement of other motor vehicles /fire engine, ambulance, company cars/ or people.
- On completion of loading - unloading operations, motor vehicles shall immediately leave the premises of the power plant.
- Alcohol /including beer/, drugs or other psychotropic substances are strictly forbidden to be brought in or out of the premises of the power plant and so is the access of persons who are under the influence of such substances.
- Fire arms, gas weapons and cold steel weapons as well as explosive materials and air nail guns are strictly forbidden to be brought in.

4. WRAPPING, PACKAGING AND ASSEMBLING

All assemblies, details and parts of equipment shall be supplied to ContourGlobal Operations Bulgaria, preserved in packing for storage to exclude any possibility of their being damaged due to weather conditions during transportation and during loading and unloading operations. Packages and the large details shall be equipped with grips for lifting and moving.

5. TECHNICAL REQUIREMENTS FOR THE DELIVERY

The main purpose of the delivery is to ensure trouble-free and safe operation of the gas analyzing stations MCA04, Ultramat/Oxymat 6, Ultramat 6, dust concentration measuring device PFM97 and information system DURAG, installed in FGD.

- Dust concentration measuring device PFM 97 ED, outlet FGD - 12/34HTA11CQ006
- Gas analyzer FGD inlet - 12/34HTA11CQ001
 - Ultramat 6 - SO2/Oxymat 6 - O2
 - Sampling probe SP 210
 - Electric Gas Cooler EC
- Gas analyzer Ultramat 6 (and its entire cubicle) –NO, CO inlet FGD 12 and 34 – 12/34
- Gas analyzer MCA04 - SO2, NO, CO, CO2, H2O - 12/34
- DURAG information system - 00HNE10GH001.

The supply shall be effected by the manufacturer (Dr. Födisch).

All spare parts shall be supplied in line with the appended specifications and drawings which are part and parcel to this technical specification and are identical with those of the manufacturer:

The supply shall contain the following items:

Nº	Name	Part Nº	Measure	Quantity	Single price	Total
1	Cell filter ETLA 1282		pcs	15		
2	Sample gas cell ETLA1283		pcs	10		
3	Membrane set for pump ETL 515		pcs	10		
4	MCA 04 front plate ETL		pcs	1		
5	Power board PSA for MCA04 ETL503		pcs	1		

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6	Power board PSB for MCA04 ETL504		pcs	1		
7	Check valve ETL 827		pcs	12		
8	Fitting for pump 6mm ETLA2102		pcs	10		
9	Elbow 90° 6 to 8mm ETL 829		pcs	10		
10	Speed-regulating control cabinet thermostat ETL524		pcs	2		
11	Thermal switch with reset button 65 ° C ETL552		pcs	6		
12	Peristaltic pump SR25.1 ETL59		pcs	2		
13	Device breaker ETL813		pcs	4		
14	Filter security ETL 21350		pcs	24		
15	3-way-valve PFM97ED ETL 7617		pcs	1		
16	Hose set for condensate pump ETL 37		pcs	24		
17	Peristaltic pump wheel ETL 36		pcs	16		
18	Ir-emitter ETLD70		pcs	2		
19	Injector top ETL7629		pcs	2		
20	Sampling bow for PFM97ED ETL7614		pcs	2		
21	Pump MCA04 ETL516		pcs	1		
22	O2-sensor ETL506		pcs	4		
23	Pump N87TTE ETL20821		pcs	1		
24	BaF2 window ETL 570		pcs	10		
25	Set absorber metals for SUN ABS20.03 ETL24251		pcs	2		
26	Injector midsection ETL7631		pcs	2		

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27	below sample gas pump MGP12 ETL 294043		pcs	2		
28	set inlet/outlet valve 70°C ETL 294044		pcs	2		
29	Gas cooler EC-30C complete		pcs	1		
30	Measuring cell for MCA04 ETL		pcs	2		
31	Pump MGP12		pcs	2		
32	Heat exchanger, glass for unit GCU 16		pcs	2		
33	Peristaltic pump for Gas cooler EC-30C		pcs	2		
34	24V power supply ETL1182		pcs	2		
35	Magnetic valve Y12/Y22 complete		pcs	4		
36	Cuvette boxes for MCA04		pcs	5		
37	Heating dilution air for PFM97		pcs	1		
38	Fan of the cabinet 700 m ³ ETL 532		pcs	2		
39	Side plate detector box ETLA1258		pcs	8		
40	Side plate IR-box ETLA1269		pcs	8		
41	Heating sleeve ETL558		pcs	1		
42	Fan for IR-source box ETLA 1228		pcs	2		
43	Thermo switch ETL502		pcs	4		
44	Heating LWK ETLA1278		pcs	2		
45	Bürkert 3 2-way valve type 330 C 3.0 NBR ETL 580		pcs	2		
46	Connection block for oxygen measurement ETLA2073		pcs	2		
47	Sealing set pure gas cell ETLA1277		pcs	4		

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48	pt100 measuring cell ETL7604		pcs	2		
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6. TERMS OF DELIVERY

All goods shall be delivered at the same time and within the shortest period possible for the supplier and as specified in the order. End date of delivery: Three months after contract signing.

7. RECEPTION OF GOODS IN THE WAREHOUSE

7.1 DELIVERIES VIA COURIER

The financially liable person shall stamp the hand-over certificate in verification of receiving the materials, then send an e-mail to the maintenance team, after which by the end of the following working day the technical specialist from the maintenance team shall carry out a technical check of the supplied commodity /material/ and sign the hand-over certificate. Only after that shall the commodity be put away in its proper place in the warehouse and both the invoice and the hand-over certificate shall be forwarded to the Accounting Department for posting.

7.2 SUPPLY BY THE CONTRACTOR

In the event of delivery of commodities directly by the Contractor, the date and time of delivery shall be announced in advance to both the warehouse personnel and the person in charge of the technical inspection. The delivered commodity shall not be accepted if it has not been inspected and the related technical inspection report has not been filled out. If the commodity corresponds to the Purchase Order, a hand over certificate shall be filled out and the commodity shall be accepted and registered in the warehouse and the hand-over certificate along with the technical compliance certificate shall be submitted to the Accounting Department. If the commodity does not correspond to the parameters specified in the Purchase Order, it shall be sent back to the Supplier.

8. OBLIGATIONS AND REQUIREMENTS FOR THE SUPPLY

8.1 OBLIGATIONS OF THE SUPPLIER

The Supplier shall provide new spare parts, as specified by type and number in the specification attached hereto, i.5 /Technical requirements for the supply/ and compliant with the requirements of the Contracting authority.

The Supplier shall prepare and hand over Technical Documentation as detailed below:

- A Packing list;
- Declaration of Conformity with the Contracting Authority's specified requirements signed by the manufacturer;
- A Quality Certificate;
- A Hand-over Certificate.

The documents shall be supplied in 3 /three/ copies.

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9. OBLIGATIONS OF THE CONTRACTING AUTHORITY

The Contracting Authority is under the obligation to make sure an authorized company representative attends receipt of the delivery for the purposes of entry inspection in line with the requirements of the Technical Specification.

10. WARRANTIES

The Supplier shall provide warranty for their products, subject of delivery, in the form of a defects liability period (DLP) not shorter than 24 months.
In the event of establishing that the defect has appeared during transportation, the Supplier shall deliver a spare part or a unit at their expense and consequently a new DLP shall be specified.

11. APPENDIX

Not applicable.