

Order Transfer Form (OTF)

from

HVAC Department

to

Project Department



OTF

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CLIENT DETAILS		
1	Project Name:	M/S. Ziska Pharmaceuticals Ltd.
2	Client Name:	Ziska Pharmaceuticals Ltd.
3	Client Office Address	Green City Edge, 89 Kakrail, Dhaka-1000
4	Client Office Contact Person	Ms. Shakila Afroz
5	Mobile:	8801999014522
6	Email:	shakila@ziskapharma.com
7	Site Address	Karol, Surichala, Shafipur, Kaliakoir, Gazipur
8	Site Contact Person	Engr. Lutfur
9	Mobile:	8801819017750
10	Email:	lutfur@ziskapharma.com
GENERAL DETAILS		
1	Product Model and Capacity:	Viessmann Dual fired (NG+ Diesel) Boiler, Model: Vitomax HS and Capacity: 5,000 KG/HR at 10.0 bar
2	Quantity:	1
3	Effective Date of Contract:	N/A
4	Due Delivery Date:	24 Weeks Approx.
5	Delivery Basis:	CFR Chattogram
FINANCIAL DETAILS		
1	Irrevocable Letter of Credit:	Payable at Sight
2	Proforma Invoice Number & Date:	064/OSS/KES-BD/ZPL/PI/V/2023
3	L/C Number:	134920020009
4	L/C Issue Date:	2023 Jun 13
5	L/C Issuing Bank:	SOUTHEAST BANK LIMITED, MOTIJHEEL BRANCH (ISLAMIC BANKING), DHAKA
6	L/C Expiry Date (31D):	2023 Nov 17 Singapore
7	Destination (44B):	Chattogram sea port
8	Latest Date of Shipment (44C):	2023 Oct 27
9	Any Performance Guarantee Clause:	NO
10	Any Discrepancy in the L/C:	YES
COMMERCIAL DETAILS		
1	LC Copy Attached	NO
2	Offer Copy Attached: (Scope of Supply)	YES
3	P I Copy Attached:	NO
4	Any Technical Deviations:	NO
5	Penalty for Performance:	NO
6	Penalty for Delayed Delivery:	NO
7	Any Verbal / Special Commitment:	Installation will be done by KEBD Project team. It should be Presentable and remarkable. order is already finalized.

**Order Transfer Form (OTF)**

from

HVAC Department

to

Project Department

Total Power Solutions

OTF

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Niesmann
ENTIRE SCOPE OF SUPPLY

1	Boiler Capacity individual	5,000 kg/hr
2	Economiser for Boiler	Integrated
3	Feed water pump- 2No's	YES with VFD (Feed Water Pump CRES-29)
4	Burner	Elco-Dual (NG/LPG+Diesel)
5	Water Softner	YES (Local Supply 5.0 m3/hr) <i>(KEBD scope)</i>
6	Gas Regulator (15PSI TO 300mbar)	YES (LOCAL SUPPLY) <i>(KEBD scope)</i>
7	Automatic Blow down with TDS Sensing	YES
8	Electrical Control Panel	YES with PLC
9	Any Additional Items	NO

Comments: Site Visit should be done by Project Team for Proper placement of the boiler. Local procurement should be done before shipment of the Boiler.

WARRANTY TERMS

12 month from the date of commissioning or 18 month from the date of supply whichever occurs first.

Date: 14-06-2023

Prepared By

Md. Rezaur Rahman
14-06-23
Md. Rezaur Rahman

Sales Person

Reviewed By

D. Satish Kumar
Satish Kumar
Sales Manager

P. S. S.
P. S. S.
Project Manager

Approved By

CEO



Total Power Solutions

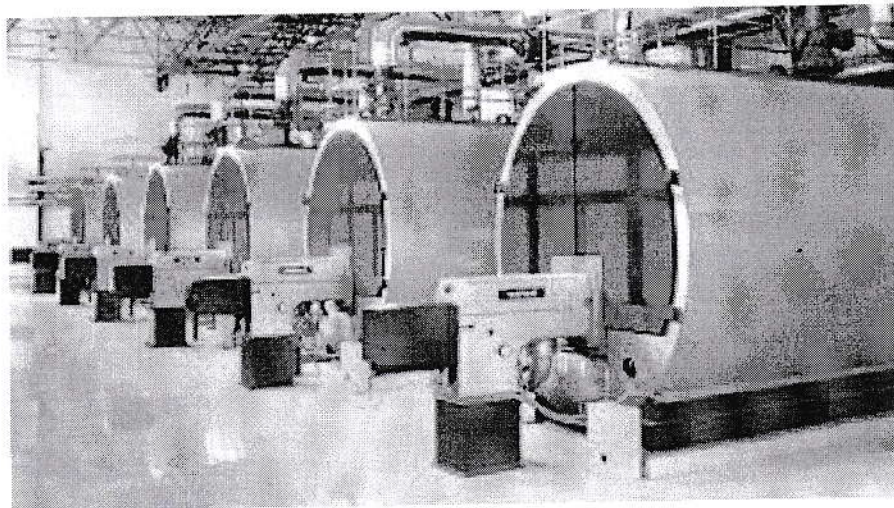
Kaltimex Energy Bangladesh (Pvt.) Ltd.

VIESMANN

Kaltimex Energy Bangladesh (Pvt.) Ltd.
Green Orlando (8th Floor)
Plot # 42/4 Pragati Sarani,
Dhaka - 1229,
Bangladesh

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E-mail : egb@kaltimexbangla.com.bd
: hvac@kaltimexbangla.com.bd
Web : www.kaltimexbangla.com.bd



Techno Commercial Proposal
for Direct Fired Steam Boiler

Capacity: 1x5,000kg/hr
Operating Pressure: 10 bar

Ziska Pharmaceuticals Ltd.

Location: Green City Edge (3rd Floor), 89 Kakrail ,Dhaka-1000, Bangladesh.

Quotation: 8220021187 from Mar 28, 2023
Customer: 0820001072
Project: Ziska Pharm, 0000 Dhaka
Project No.: P0001149456

2. Quotation basis

2.1. Plant data

Country of installation	Bangladesh	
Maximum installation height above mean sea level	500	m
Minimum ambient temperature	10	°C
Maximum ambient temperature	40	°C
Supply voltage	400	V
Power frequency	50	Hz

2.2. Technical data Steam generator

Medium	Saturated steam	
Steam mass flow with own consumption (gross)	5,000	kg/h
Operating pressure	8.5	bar
Max. allowable operating pressure (PS)	10.0	bar
Fuel gas	Natural gas E	
Lower calorific value	37.26	MJ/Nm ³
	10.35	kWh/Nm ³
O ₂ content in dry flue gas	2.10	%
NO _x requirement **	100	mg/Nm ³
Fuel oil	Fuel oil (light oil EL)	
Lower calorific value	42.80	MJ/kg
O ₂ content in dry flue gas	2.70	%
NO _x requirement **	200	mg/Nm ³
Combustion air temperature	25	°C
Degassing type	Full degasification	
Degassing temperature	107	°C
Boiler feed water temperature	107	°C
Make-up water temperature	10	°C
Condensate temperature	80	°C

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Condensate return rate	40.00	%
Condensate mass flow	1,753	kg/h
Blow down rate	5.00	%
Water consumption		
- Make-up water / fresh water	2,871	kg/h
Type of control	based on PLC	

Some of the values are derived from calculations.

* Assumption

** Deviation from the required value possible

Steam generator 1

Amount	1.00	pcs
Operating mode	Normal operation	
Steam mass flow (gross)	5,000	kg/h
Fuels	GasOil	
Main fuel	Gas	
Achieved efficiency (main fuel)	95.10	%

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3. Delivery description

3.1. Steam generator

Item.	Material description
1	Steam boiler system
1.1	Shell boiler
1.1.1	<p>VISSMANN Vitomax HS</p> <p>For the combustion of gas to DVGW Code of Practice G260/ I and II and fuel oil to DIN 51603-1,3 in accordance with the equipment selected and the operating conditions required.</p> <p>Shell boiler in a horizontal design, optimised to withstand stress, implemented as a three-pass boiler.</p> <p>Smoke tubes are arranged above and to the side of the combustion chamber.</p> <p>The design of the smoke tube array offers high reliability in operation due to:</p> <ul style="list-style-type: none"> • Clearances that reduce stress • Support of harmonic convection • Welding in positions that exclude constrained conditions <p>Internal, water-cooled, rear reversing chamber with no wearing parts such as refractory lining.</p> <p>Cleaning aperture at the back of the flame chamber</p> <ul style="list-style-type: none"> • Cleaning aperture at the back of the flame chamber • Good accessibility in turning chamber and flame pipe • To facilitate commissioning, maintenance, inspection and testing. • With sight tube and female connection gate • Hinges facilitate opening without lifting tackle <p>Burner entry point with refractory lining, suitable for the use of pressure atomising burners.</p> <p>For rotary atomizer burners, the details must be agreed between the customer and Viessmann when an order is placed.</p> <p>Maximum availability with low downtimes can be ensured through:</p> <ul style="list-style-type: none"> • High quality standards for material, manufacturing and production processes • Position and number of inspection ports • Testing of weld intersections without removing external insulation • Low load due to corner anchors arranged in pairs <p>Maximum intervals between repeat inspections, taking into account the national regulations, are agreed and documented in the declaration of conformity.</p>

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Item.	Material description
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High steam quality with residual moisture of less than 0.2 % is ensured through a generously dimensioned steam chamber, large water surface and integral demister.

Reversing chamber with pivoting boiler doors.

In each door there is special light insulation, which is protected on the flue gas side by a plate.

Boiler doors can be opened without removing the burner and/or fuel supply.

Boiler support to be installed on even and level foundations.

- With brackets for longitudinal load distribution
- Integral floating bearing for thermal expansion
- With 4 holes for lifting tackle for secure transport and handling
- With connection for earth lug
- With primer coating applied

With integral economiser (ECO)

- Permanently connected with the steam boiler
- With spiral finned tubes, fully welded together, with segmented fins
- Low stress design due to flexible mounting of the water carrying tubes
- Flange for connecting the flue system
- Primary fuel: Gas
- Alternative fuel: HEL (DIN 51603-1)

Thermally insulated flue gas collector, with condensate drain nipple and inspection port.

Feedwater line between ECO and boiler, with thermal insulation.

Emptying or sludge connection for attachment to the emptying connector on the boiler base.

Can be mounted in the direction of the boiler axis to the rear or to the 90 ° angle.

Fitting assembly with connections for measuring, control and limiting equipment.

Full thermal insulation of the boiler body with insulation material. The casing is made from metal.

The selected design prevents thermal bridges.

Certified according to the European directive on the provision of pressure devices on the market (Pressure Equipment Directive).

Production according to other standards such as TR of the Customs Union by TSG G 0001-2012, ASME, IBR are possible.

Boiler packaging with foil as transport/installation protection.

As packaging materials are film or other suitable materials are used.

Specification, based on:

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Item.	Material description	
	- Boiler sizing details in accordance with point 2 of this quotation - Determined with reference to EN 12953 Accuracy of values as part of mathematical boiler calculation models.	
	Steam mass flow rate, 100 % load	
	- Gas	5,000 kg/h
	- Fuel oil EL	5,000 kg/h
	Combustion heating output, 100 % load	
	- Gas	3,425 kW
	- Fuel oil EL	3,425 kW
	Boiler efficiency, 100 % load	
	- Gas	95.10 %
	- Fuel oil EL	95.20 %
	Boiler efficiency, 80 % load	
	- Gas	95.30 %
	- Fuel oil EL	95.40 %
	Boiler efficiency, 60 % load	
	- Gas	95.60 %
	- Fuel oil EL	95.60 %
	Boiler efficiency, 40 % load	
	- Gas	95.70 %
	- Fuel oil EL	95.80 %
	Flue gas loss, 100 % load	
	- Gas	4.60 %
	- Fuel oil EL	4.50 %
	Radiation loss, 100 % load	
	- Gas	0.40 %
	- Fuel oil EL	0.40 %
	Flue gas temperature, 100 % load	
	- Gas	160 °C

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Item.	Material description		
	- Fuel oil EL	160	°C
	Flue gas temperature, 80 % load		
	- Gas	150	°C
	- Fuel oil EL	151	°C
	Flue gas temperature, 60 % load		
	- Gas	140	°C
	- Fuel oil EL	142	°C
	Flue gas temperature, 40 % load		
	- Gas	129	°C
	- Fuel oil EL	131	°C
	Fuel throughput, 100 % load		
	- Gas	331	Nm³/h
	- Fuel oil EL	288	kg/h
	Flue gas flow rate, dry, 100 % load		
	- Gas	3,179	Nm³/h
	- Fuel oil EL	3,493	Nm³/h
	Flue gas flow rate, moist, 100 % load		
	- Gas	6,527	m³/h
	- Fuel oil EL	6,436	m³/h
	Flue gas mass flow rate, moist, 100 % load		
	- Gas	4,807	kg/h
	- Fuel oil EL	5,109	kg/h
	Max. pressure drop on the flue gas side, 100 % load		
	- Gas	10.0	mbar
	- Fuel oil EL	9.0	mbar
	Combustion chamber volume loading		
	- Gas	1.60	MW/m³
	- Fuel oil EL	1.60	MW/m³
	Flue gas pressure at boiler flue gas connection	+/- 0	mbar
	Boiler heating surface, flue gas side	91	m²
	Flue gas volume	5,2	m³

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Item.	Material description		
	Max. permissible operating pressure (PS)	10	bar
	Boiler water capacity (total)	10.86	m³
	Water capacity up to LWL		
	Steam chamber volume, average operating range	1,47	m³
	Connectors		
	- Steam	DN125 PN16	
	- Safety valve	DN50 PN40	
	- Number of safety valve connectors	2	
	- Water level indicator	DN20 PN40	
	- Number of water level indicator connector pairs	2.00	
	- Distance between centres of water level indicator connectors	400	mm
	- Water level control and limitation (WR/WB) (electrode lengths according to installation instructions)	DN100 PN40	
	- Number of WR/WB connectors	2	
	- Desalination	DN20 PN40	
	- Conductivity electrode	DN50 PN40	
	- Feedwater	DN40 PN40	
	- Drain	40.00 PN40	
	Location of side connections	right	
	Dimensions		
	- Total length of boiler incl. thermal insulation	5,140	mm
	- Total width of boiler incl. thermal insulation	2,400	mm
	- Total height of boiler incl. thermal insulation	2,830	mm
	Shipping dimensions incl. packaging		
	- Shipping length	5,290	mm
	- Shipping width	2,425	mm
	- Shipping height	2,855	mm

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Item.	Material description		
	Note		
	All dimensions without equipment and, if offered, without taking into account the customer-specific orientation of the flue outlet and an ECO mounted on top		
	Shipping weight \pm 10 %	10,179	kg
	Data ECO		
	- Heating surface, flue gas side	40,1	m ²
	- Flue gas volume	0,25	m ³
	- Max. pressure drop, water side	0,23	bar
	Flue gas connection ECO		
	- Internal dimensions	1610 x 340	
	- Orientation	oben	
	Connection condensate drain nipple	1 1/2"	
	Connection temperature measurement on the water side after the ECO	G 1/2	
	Fitting assembly connections		
	-Measuring, control and limiting equipment	G 1/2	
	- Number	5	
	- Drain/fill	G 1/2	
	- Boiler	DN20 PN40	
	Thermal insulation material	lamella mat\	
	Thermal insulation thickness boiler coat	100	mm
	Casing material	Sheet steel, galvanised, coated	
	Casing colour	Vitographit	
	1.00 PC		
1.2	Boiler accessories		
1.2.1	Round cleaning brush with twisted-in wire core and thread. Multi section shaft and handle.		

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Item.	Material description
	<div>Total length threaded rod4.800 mm</div> <div>1 PC</div>
1.2.2	Sound-absorbing, vibration- absorbing boiler supports. Consisting of a highly elastic, weather-resistant rubber mixture with high resistance to aging - Data sound absorbing pads DesignVIESSMANN Max. total load33,6 t Installation height (unstressed)15 mm Length per base250 mm Width per base125 mm Number of absorbing bases6 1 PC
1.2.3	Counter flange, screws, nuts, gasket. <div>Construction size flangeDN40 PN16</div> <div>1 PC</div>
1.2.4	Counter flange, screws, nuts, gasket. <div>Construction size flangeDN125 PN16</div> <div>1 PC</div>
1.2.5	Counter flange, screws, nuts, gasket. <div>Flange sizeDN40 PN40</div>

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Item.	Material description
	1 PC
1.3	Fittings
1.3.1	Shut-off valve for gaseous and liquid media. Equipped with manual drive. Drive fitted to valve. Version VISSMANN Valve type ARI-FABA-PLUS Connection, flange DN125 PN16 KVS value 270 m3/h Casing material EN-JS 1049 Design Straight-through valve Spindle seal Tube bellows 1 PC
1.3.2	Screws, nuts, gaskets. Construction size flange DN125 PN16 1 PC
1.3.3	Screws, nuts, gaskets. Construction size flange DN40 PN16 1 PC
1.3.4	Screws, nuts, gaskets. Construction size flange DN40 PN40

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Item.	Material description
	1 PC
1.3.5	Shut-off valve for gaseous and liquid media. Equipped with manual drive. Drive fitted to valve. Version VISSMANN Valve type ARI-FABA-PLUS Connection, flange DN40 PN16 KVS value 28.5 m3/h Casing material EN-JS 1049 Design Straight-through valve Spindle seal Tube bellows 1 PC
1.3.6	Disc non-return valve Type ARI-CHECKO-D Connection DN40 PN40 Casing material 1.4408 Design Intermediate flange connection terminal 1 PC
1.3.7	Shut-off valve for gaseous and liquid media. Equipped with manual drive. Drive fitted to valve. Version VISSMANN Valve type ARI-FABA-PLUS Connection, flange DN20 PN16

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Item.	Material description		
	KVS value	7.2	m3/h
	Casing material	EN-JS 1049	
	Design	Straight-through valve	
	Spindle seal	Tube bellows	
	1 PC		
1.3.8	Screws, nuts, gaskets.		
	Construction size flange	DN20 PN40	
	1 PC		
1.3.9	Screws, nuts, gaskets.		
	Construction size flange	DN40 PN16	
	1 PC		
1.3.10	Shut-off valve for gaseous and liquid media.		
	Equipped with manual drive.		
	Drive fitted to valve.		
	Version	VISSMANN	
	Valve type	ARI-FABA-PLUS	
	Connection, flange	DN40 PN16	
	KVS value	28.5	m3/h
	Casing material	EN-JS 1049	
	Design	Straight-through valve	
	Spindle seal	Tube bellows	
	1 PC		
1.3.11	Dual window sight flow indicator.		

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Item.	Material description
	<p>Screws, nuts, gaskets.</p> <p>Type BR 660</p> <p>Connection flange DN20 PN40</p> <p>Casing material 1.0619+N</p> <p>2 PC</p>
1.3.12	<p>Shut-off valve with lockout facility, shut-off valve G 1/2" (PN250) with cap for installation between the fitting assembly connection and pressure gauge or the pressure limiter.</p> <p>2 PC</p>
1.3.13	<p>Shut-off valve for gaseous and liquid media. Seal ring included in standard delivery.</p> <p>Connection G 1/2</p> <p>Nominal pressure 250 PN</p> <p>Casing material 1.0460</p> <p>Design Durchgangsventil</p> <p>1 PC</p>
1.4	Safety equipment
1.4.1	<p>Safety valve Performed as full lift safety valve, direct acting, spring loaded, individually tested.</p> <p>Installation material comprising screws, nuts and gaskets.</p> <p>Response pressure 10 bar</p> <p>Discharge output</p>

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Item.	Material description
	- Saturated steam mass flow 7.290 kg/h - Inlet Connection DN50 PN40 - Outlet connection DN80 PN16 Casing material EN-JS1049 Max. own back pressure to be maintained 1 bar 2 PC
1.4.2	Water level indicator Reflective glass retainer, side flange with indicator NW (lowest water level), two shut-off valves and one drain valve. Including screws and gaskets. Connecting flanges: DN 20 PN 40 Flange distance: 400 mm 2 PC
1.4.3	Compact system for level testing, comprising a level electrode and integral level transmitter. Seal ring included in standard delivery. Type NRGT26-2 Effective measuring length 800 mm Responsiveness $\geq 0,5 \mu\text{S/cm}$ Level probe output signal 4 - 20 mA Mains voltage 24 V Electrical power 5 W Connection G 3/4 Operating pressure PN40 1 PC
1.4.4	Installation material comprising a blank flange with additional hole, screws, nuts and gasket.

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Item.	Material description
	Flange size DN100 PN40 Number of holes 1 Type of hole G 3/4 1 PC
1.4.5	Installation material comprising a blank flange with additional hole, screws, nuts and gasket. Flange size DN100 PN40 Number of holes 2 Type of hole G 3/4 1 PC
1.4.6	Level electrode, self-monitoring. In conjunction with corresponding level switch, for water level limiting in steam boilers and hot water plants, EC type-tested, according to EN 12952 /EN 12953. Seal ring included in standard delivery The electrode length is matched at the factory to the required switching point. Type NRG 16-50 Mechanical connection G 3/4 Nominal pressure PN40 2 PC
1.4.7	Pressure gauge, with gauge test valve and red indicator. Measuring range: 0-16 bar Display accuracy class: 1,6 External diameter: 160 mm

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Item.	Material description
	Connection: R 1/2 1 PC
1.4.8	Maximum pressure limiter, designed as a safety pressure limiter, CE approved. Design: VIESSMANN Type: BCP4H Controle range: 1 - 10bar Connection: G1/2A 1 PC
1.4.9	Pressure transducer for the regulation of burner's output. Covered the operating and converts it into an electrical signal. Angle plug connection and Included in scope of supply Sealing ring. Version VIESSMANN Type MBS3200-2211-A1AB08-0 Measuring range 0,0 - 16 Output signal 4 - 20 Mechanical connection G1/2 1 PC
1.4.10	Installation material comprising a blank flange with additional hole, screws, nuts and gasket. Flange size DN50 PN40 Number of holes 1 ST Type of hole G 1

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Item.	Material description																				
	1 PC																				
1.4.11	TDS valve As a stage nozzle regulating valve, with sampling valve.																				
	<table> <tr> <td>Version</td><td>VISSMANN</td></tr> <tr> <td>Type</td><td>BAE46-3-1</td></tr> <tr> <td>Adjustment</td><td>Automatic</td></tr> <tr> <td>Activation</td><td>Electric actuator</td></tr> <tr> <td>Casing material</td><td>1.0460</td></tr> <tr> <td>Connection</td><td></td></tr> <tr> <td>TDS valve</td><td>DN20 PN40</td></tr> <tr> <td>Sampling valve</td><td>Ermeto 8S</td></tr> <tr> <td>Position feedback</td><td>0 - 1000 Ohm</td></tr> <tr> <td>Mains voltage</td><td>230 V</td></tr> </table>	Version	VISSMANN	Type	BAE46-3-1	Adjustment	Automatic	Activation	Electric actuator	Casing material	1.0460	Connection		TDS valve	DN20 PN40	Sampling valve	Ermeto 8S	Position feedback	0 - 1000 Ohm	Mains voltage	230 V
Version	VISSMANN																				
Type	BAE46-3-1																				
Adjustment	Automatic																				
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Position feedback	0 - 1000 Ohm																				
Mains voltage	230 V																				
	1 PC																				
1.4.12	Counter flange, screws, nuts, gasket.																				
	<table> <tr> <td>Construction size flange</td><td>DN PN</td></tr> </table>	Construction size flange	DN PN																		
Construction size flange	DN PN																				
	1 PC																				
1.4.13	Compact system for conductivity test, EC type-tested. The system comprises a conductivity test electrode, temperature sensor for capturing the media temperature and conductivity transmitter in the terminal enclosure. Can be used in conjunction with the corresponding controller as a limiting device. Seal ring included in standard delivery.																				
	<table> <tr> <td>Type</td><td>LRGT16-3</td></tr> <tr> <td>Responsiveness</td><td>> 0,5 µS/cm</td></tr> <tr> <td>Output signal conductivity electrode</td><td>4 - 20 mA</td></tr> <tr> <td>Mains voltage</td><td>24 V</td></tr> </table>	Type	LRGT16-3	Responsiveness	> 0,5 µS/cm	Output signal conductivity electrode	4 - 20 mA	Mains voltage	24 V												
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Item.	Material description		
	Electrical power	4,5	W
	Connection	G 1 A	
	1 PC		
1.4.14	Blow-down valve assembly Comprising - Quick-action blow-down valve with diaphragm drive for operation with compressed air or water. Straight-through valve. Equipment for quick-action blow down valve - 3/2-way solenoid valve - Y-shaped dirt trap Installation material comprising screws, nuts and gasket. Type MPA 46 Connection DN40 PN40 Casing material 1.0460 Spindle seal PTFE-Packung Flow capacity 16,5 m³/h Mains voltage 220 V 1 PC		
1.4.15	Sample cooling unit Ready-to-install assembly, Consists essentially of: Cooler with cooling coil, wall mounting bracket and container holder, sample inlet regulation valve, coolant inlet ball valve and mounting accessories. Permissible operation pressure - cooling coil: 30 bar - cooler casing: 6 bar Material (casing and cooling coil): 1.4571		

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Item.	Material description
	<p>Connections</p> <ul style="list-style-type: none"> - sample inlet: G 1/4 - coolant inlet: R 3/8 - coolant outlet : R 1/2 Sample outlet: Durchmesser 8 mm <p>1 PC</p>
1.4.16	<p>Console for mounting the sample cooler on a Vitomax boiler.</p> <p>1 PC</p>
1.4.17	<p>Dial thermometer for feed water temperature measurement after ECO. Design: VIESSMANN Measuring range: 0-250 °C Diameter: 80 mm Accuracy class: 2 Immersion sleeve -length: 100 mm -connection: G 1/2</p> <p>1 PC</p>
1.5	Pumps
1.5.1	<p>Feed Water Pump CRE5-29</p> <p>Design : VFD</p> <p>Ref No. 7246632</p> <p>Qty : 01 Set (01 Duty + 01 Standby</p> <p>1 PC</p>
1.6	Services
1.6.1	<p>Preparation of the burner connection plate according to the selected burner A current burner drawing is to be submitted with order placement, if the burner is supplied by the customer.</p>

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Item.	Material description
	1 PC
1.7	Control
1.7.1	<p>VISSMANN-Vitocontrol switchgear desgined as boiler control.</p> <p>The control equipment includes the combinations of control, measurement, protection and management equipment for operating the boiler system, installed in the control panel.</p> <p>Design meets applicable directives and standards. Checked and function-tested at the factory.</p> <p>The system is intended for indoor installation with a maximum ambient temperature of 25 °C (30 °C for short periods). At higher ambient temperatures, additional measures (ventilation, air conditioning) are required.</p> <p>Every cabinet module of the system is internally wired for use. Installed devices are mounted on the mounting plate or in the control panel door.</p> <p>Sheet steel control panel enclosure with surface finish. Designed as floorstanding panel with body, mounting plate, lockable front door and base.</p> <p>The control panel contains:</p> <ul style="list-style-type: none"> - Feed - Voltage supply 24 V - Voltage supply 230 V - Fan, designed as a filter fan. <p>Thermostat for monitoring the internal temperature of the switchgear cabinet as self-sufficient bimetallic controller.</p> <ul style="list-style-type: none"> - Overvoltage protection - Emergency stop control. <p>The emergency stop button on the control panel is integrated. The emergency stop buttons in the boiler system and boiler house are ready for integration.</p> <ul style="list-style-type: none"> - Controlling the maximum pressure limitation as part of the boiler safety chain - Controlling the low water limitation as part of the boiler safety chain <p>Level switch, self-monitoring. In conjunction with the corresponding level electrode for limiting the water level in steam boilers and hot water plants, EC type-tested according EN 12952 / EN 12953.</p>

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Item.	Material description
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- Boiler safety chain
 If a limiter responds, the combustion system is shut down.

Controls for resetting and testing safety functions.

- Option to connect a floating contact for signal demand load operation
- Assessing the boiler water level for water level control and visualisation.

Control via two-point or PID function.

- Assessing the boiler pressure for burner load control and visualisation.
- Assessing the boiler water conductivity for TDS control and visualisation.

Control via two-point or PID function.

- Switching the TDS valve with signal input for continuous position feedback.

- Switching the blow-down valve.

- Switching the feedwater pump.

For the use of 2 pumps with automatic fault changeover and rotation changeover with freely adjustable times for alternating operation.

- Power supply for the burner control panel, protected via motor overload relay.

- Switching the burner control unit.

Signal exchange for enabling the burner and for burner load control (multiple stages, modulating) is included in addition to the burner start and the burner hours run display for each fuel.

Visualization of the burner load when a position feedback signal from the burner is available.

- Control device (HMI) with touchscreen, for clear, menu-guided operation and monitoring of the system.

With edge-to-edge glass front. Scratch-resistant, anti-reflective surface with high chemical resistance and brilliant colour rendering. Can be operated while wearing gloves.

Full graphic colour display of test values, operating states and fault messages, as well as boiler overview and operating screens.

Plain text display of operating and fault messages, with time stamp and fault attribute (coming, going, acknowledged), plus message history with up to 10000 entries. Messages can be sorted via filter.

Language changeover and password protection with several levels.

Connection for remote monitoring, maintenance and fault analysis of the boiler system.

- Provision of floating contacts on terminal strip for
- Central fault message signalling
- Steam production failure signalling
- Central fault connection, light

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Item.	Material description		
	<ul style="list-style-type: none"> - Central fault connection, buzzer - Programmable logic control (PLC) The PLC carries out the control functions for operating the steam boiler system. 		
	Basic functions included are:		
	<ul style="list-style-type: none"> • Separately controlled set pressure selection via time switch, for load and reduced pressure operation (standby) • Hours run meter for pumps and burner, with recording of burner starts • Time switch with freely adjustable times for operation without supervision, with warning alarm prior to shutdown • Limiter test with adjustable test time default • Manual and automatic operation for each connected drive or actuator • Boiler preservation mode. 		
	- Control panel casing data		
	IP rating	IP54	
	Cable entry location	unten	
	Dimensions:		
	- Min. width	800	mm
	- Max. width	1.200	mm
	- Depth	400	mm
	- Height of body	1.800	mm
	- Height of base	200	mm
	Casing colour	RAL 7035	
	Number of wiring diagrams provided	2	
	Wiring diagram language	deutsch	
	- Feed data		
	Voltage	400	V
	Frequency	50	Hz
	Current type	AC	
	Fuse rating	32	A
	Internal distribution	flexible cable	
	- Data on voltage supply		

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Item.	Material description	
	Primary voltage	400 V
	Secondary voltage	24 V
	Current type	DC
	Supply type	Control transformer
	- Data on voltage supply	
	Primary voltage	400 V
	Secondary voltage	230 V
	Frequency	50 Hz
	Current type	AC
	Supply type	Direct
	- Fan details	
	Max. possible air flow rate	120 m ³ /h
	Min. operating temperature	-15 °C
	Max. operating temperature	55 °C
	Installation location	Oberseite
	Note	
	The design of the ventilation/air conditioning system for the control panel cannot be finalised until the project engineering stage.	
	It is possible that this will result in higher performance data and therefore additional costs.	
	- Data exchange age (low water)	
	Type	NRS 1-50
	Responsive sensitivity	
	Classification of safety integrity (SIL)	
	- Data on switching feedwater pump	
	Max. possible motor rating	2.2 kW
	Operating voltage	400 V
	Current type	AC
	Switch-on type	Inverter
	- Data for burner control panel power supply	

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Item.	Material description	
	Operating voltage	400 V
	Max. power output	7.5 kW
	Current type	AC
	- Data for operation device	
	Screen size	12 "
	- Data for remote maintenance connection	
	Communication type	LAN
	- Data for PLC	
	Manufacturer's name	Siemens
	1.00 PC	

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3.2. Other items included

Item.	Material description
2	Other items included
2.1	Misc
2.1.1	Dual Fuel Burner Make : Viessmann OEM- Elco- Ecoflame Model : EK-EVO 7.4500GL Suggested gas train 2" Siemens DN65 gas filter 1 PC
2.1.2	Hard Documents 1 PC
2.1.3	PSI certificate 1 PC
2.1.4	Freight-Shipping Costs 1 PC