

**Amendment No. 1 to ITB No.: SAMS - FIND- EQUIPMENT
AMC-01/2014 for Selection of Agency for Providing Annual
Maintenance Services for Equipment in various TB Labs**

Following amendments are carried out in the ITB No.: SAMS - FIND- EQUIPMENT AMC-01/2014.

1. Extension of date of submission of Bids and opening of bids.

Last Date, Time and Place for receipt of Bids	14.00 hours on 19 th February, 2014 at SAMS Pvt. Ltd. 1/1 B, Choudhary Hetram House, Bharat Nagar, New Friends Colony, New Delhi 110025, INDIA
Date, Time and Place for opening of bids	14.30 hours on 19 th February, 2014 at SAMS Pvt. Ltd.

2. The text included in the respective pages stands superseded to the extent as stated below.

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Annexure 1

Job content list of equipment for service and maintenance, and may include additional trouble shooting if found necessary.

1. Centrifuge (Refrigerated and Non Refrigerated)

- Complete and thorough cleaning of centrifuge.
- Inspection and greasing / oiling at tuners, hinges, locks and all moving parts.
- External cleaning of condenser capillaries/ coils of refrigeration system.
- Checking functions of all switches and checking all connections.
- Checking of refrigeration system current consumption.
- Inspection, calibration and validation of Temperature, sensors (speed, temperature, imbalance) and time measurement. For non refrigerated centrifuge, calibration and validation of sensors (speed, imbalance) and time measurement with devices traceable to National/International Standards.
- RPM and Timer.
- Noise level detection & remedial measures for optimal performance
- Checking of general performance of centrifuge.

2. Microliter Centrifuge

- Cleaning of centrifuge.
- Inspection and greasing / oiling at tuners, hinges, locks and all moving parts.
- External cleaning of condenser capillaries/ coils of refrigeration system.
- Checking functions of all switches and checking all connections.
- Checking of refrigeration system current consumption.
- Inspection, calibration and validation of sensors (speed, imbalance) and time measurement with devices traceable to National/International Standards.

- Calibration and validation of RPM and Timer with devices traceable to National/International Standards..
- Noise level detection & remedial measures for optimal performance
- Periodic checking of airflow velocity, uniformity, static pressure etc. should be done
- Checking of general performance of centrifuge.

3. Bio Safety Cabinet:

- Complete and thorough cleaning of working Area of cabinet.
- Cleaning of exhaust filter from the top to eliminate and external clogging or disturbance and inspection of ducting.
- Cleaning and oiling of sliding sash movement system.
- Checking of switches, tube lights and UV light fittings.
- Checking of airflow and exhaust system
- Calibration and validation of Magnehelic Gauges
- Validation of BSC: Particle count test, DOP(Filter Integrity test for prefilters, ULPA filter, HEPA filters),Laminar air velocity and face velocity test, Pressure test as per ISO 14644-1, NSF 49 with devices traceable to National/International Standards.
- Checking of general performance of cabinet.

4.Deep Freezers/ Freezers:

- Complete and thorough cleaning and defrosting of Freezer.
- Cleaning and oiling of door movement and door lock assembly.
- Checking of switches, compressor connections.
- Checking current consumption of each compressor.
- Inspection and cleaning of condenser coil, condenser fan air filter and refrigeration system.
- Calibration of Temperature and its mapping in the freezer chamber. with devices traceable to National/International Standards.
- Check of temperature pull down
- Checking of general performance of freezer.

Note: Preventive Maintenance servicing of Freezer are very detailed and involves a lot of physical labour and in the event we have to charge refrigerant gas, then it is even more labour intensive. Any requirement of refrigerant gas for refilling will be procured by the agency and bills submitted for reimbursement.

5. Refrigerators.

- Complete and thorough cleaning of Refrigerator.
- Cleaning and oiling of door movement and door lock assembly.
- Checking of switches, compressor connections.
- Inspection and cleaning of condenser coil, condenser fan, filter and refrigeration system
- Calibration of Temperature in chamber with devices traceable to National/International Standards.
- Checking current consumption of each compressor
- Check of temperature pull down
- Checking of general performance of Refrigerator

Note: Preventive Maintenance servicing of refrigerators are very detailed and involves a lot of physical labour and in the event we have to charge refrigerant gas, then it is even more labour intensive will be procured by the agency and bills submitted for reimbursement.

- **6. Thermocycler** Complete and thorough cleaning of Thermocycler
- Check and cleaning of heating chamber and PCR blocks.
- Cleaning of exhaust fan assembly.

- Checking of switches and board connections.
- Calibration of Temperature with reference sensor with devices traceable to National/International Standards.
- Time validation
- Peltier element efficiency validation(Checking heating and cooling time/regimes/rates of block)
- Thermal block validation using PCR validation kit.
- Checking general performance of unit.

7. Universal Oven/Oven/ Hot Air Oven

- Complete and thorough cleaning of oven
- Cleaning oiling of door movement and lock assembly.
- Checking of switches, heater connections.
- Calibration of Temperature in chamber with devices traceable to National/International Standards.
- Air velocity should be checked for Hot Air oven.
- Checking general performance of unit.

8. Micropipette

- Cleaning of all parts of pipette.
- Greasing for moving parts of pipette.
- Checking of all parts of pipette.
- Calibration and validation of pipette(liquid dispensing volume).
- Checking general performance of pipette.

9. Shaker Incubator:

- Complete and thorough cleaning of incubator.
- Cleaning, oiling of shaking mechanism of unit.
- Checking switches and connections of unit.
- Calibration and validation of speed, temperature and time measurement. with devices traceable to National/International Standards.
- Checking general performance of unit.
- Noise level detection & remedial measures for optimal performance

10. Ultrasonic Bath

- Complete and thorough cleaning of ultrasonic bath.
- Checking switches and connections of unit.
- Calibration of frequency, amplitude and time measurement with devices traceable to National/International Standards..
- Checking general performance of unit.

11. Laminar Flow

- Complete and thorough cleaning of working Area of Laminar Flow.
- Cleaning of exhaust filter from the top to eliminate and external clogging or disturbance and inspection of ducting for any leakage or any other issue.
- Cleaning and oiling of sliding sash movement system.
- Checking of switches, tube lights and UV light fittings.
- Checking of airflow and exhaust system
- Validation of BSC: Particle count test, DOP(Filter Integrity test for prefilters, ULPA filter, HEPA filters),Laminar air velocity and face velocity test with devices traceable to National/International Standards..
- Periodic checking of airflow velocity, uniformity, static pressure etc. should be done
- Checking of general performance of Laminar Flow.

12. Analytical/ Precision/ Weighing Balance

- Complete and thorough cleaning of Balance.
- Checking switches and connections of unit.
- Calibration weight measurement with NPL certifies weight box.
- Checking general performance of unit

13. pH Meter:

- Complete cleaning of pH Meter.
- Checking switches and connections of unit.
- Calibration and validation of temperature with devices traceable to National/International Standards. .
- pH calibrations with buffer solutions, three point calibration at 4, and 9 to be done.
- Checking general performance of unit

14. Water Bath

- Complete cleaning of water bath including the water inlet and outlet
- Checking switches and connections of unit.
- Calibration and validation of temperature with regard to Thermostat with devices traceable to National/International Standards.
- Minimum and Maximum water level should be checked as per manufacture.
- Checking general performance of unit

15. Densitometer

- Complete cleaning of Densitometer.
- Checking switches and connections of unit.
- Calibration against McFarland Standards in respect of Transmittance and Absorbance
- Calibration and validation of Densitometer as per manufacturer.
- Checking general performance of unit

16. Inspissator

- Complete cleaning of Inspissator.
- Checking of switches, control panel and connections of unit.
- Checking the functionality of heating unit.
- Calibration and validation of temperature and time measurement with devices traceable to National/International Standards. Checking general performance of unit

17. Incubator/ BOD Incubators

- Complete cleaning of Incubator.
- Checking of switches, heating unit, compressor and connections of units.
- Inspection and cleaning of condenser coil, condenser fan and filter.
- Calibration and validation of temperature and time measurement with devices traceable to National/International Standards..
- Checking general performance of unit

18. Autoclave: Horizontal and Vertical

- Complete cleaning of Autoclave.
- Checking of switches and connection units.
- Leak detection before calibration to be done.
- Calibration and validation of temperature and pressure with devices traceable to National/International Standards.
- Checking the efficacy of aseptic process with Biological Indicator.
- Checking general performance of unit

19. Fluorescent Microscope

- Complete cleaning of Microscope.
- Checking of switches, aperture, objectives, nosepiece, filters, lamp and connection units.
- Alignment, cleaning of lens and illumination should be checked.
- Checking general performance of unit

20. Distilled water plant

- Complete cleaning of Distilled water plant.
- Checking of switches, connection, inlet, outlet etc.
- Element verification should be done.
- pH calibrations with buffer solutions, three point calibration at 4, and 9 to be done against NIST buffer.
- TDS verification should be done.
- Checking general performance of unit

21. Bottle Washing Machine

- Complete cleaning of Bottle Washing Machine
- Checking of switches and connection units.
- Checking general performance of unit
- Replacement of brush

22. Walk in Cold Room

- Complete and thorough cleaning of Walk in Cold Room.
- Cleaning and oiling of door movement and door lock assembly.
- Checking of switches, compressor connections.
- Checking current consumption of each compressor.
- Inspection and cleaning of condenser component including condenser coil, condenser fan air filter, fins and refrigeration system.
- Calibration of Temperature at various location inside the cold room.
- Check of temperature pull down
- Checking of general performance of Walk in Cold Room
- Oil and refrigerant leak check;
- Drive belt tension check;
- Door seal check;
- Temperature control check, using the temperature charts
- Defrosting if needed
- Checking of Ice formation on the evaporator, pipes and fins
- Checking of operator panel(Control panel)

23. Walk in Incubator

- Complete cleaning of Incubator.
- Checking of switches, thermostat, heating unit, temperature control unit and display , thermometer and other connections of units.
- Calibration and validation of temperature and time measurement.
- Checking general performance of unit

24. BSL 3 Lab including AHU Unit:

- Complete servicing and maintenance of BSL 3 lab including electrical and AHU control panel, AHU unit (Twin: Supply and Exhaust System including Emergency exhaust), Condensing Unit, HEPA Filter, Pre Filters: G4; F7;F9, BMS(Software and LED Indicator based), Pressure

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Annexure 2

List of Equipment for Annual Maintenance

List of Equipment for Annual Maintenance				
Category A - High Load Lab with LPA, LC and Solid (so more equipment of each category)				
Category B - Average work load Lab with LPA, LC and Solid				
Category C - low work load Lab				
Sl. No.	Item Description	Category A	Category B	Category C
		Equipment per lab	Equipment per lab	Equipment per lab
1	Thermocycler, 96 positions for 0.2 ml tubes	2	1	1
2	Microliter Centrifuge	2-3	2	2
3	Flexible thermometer for thermocycler and Twincubator validation	3-4	2	2
4	1-channel pipette, variable from 1 - 10 ul	5-7	4-5	3-4
5	1-channel pipette, variable from 20 -200 ul	5-7	4-5	3-4
6	1-channel pipette, variable from 100 - 1000 ul - Gilson/Hain	5-7	4-5	3-4
7	1-channel pipette, variable from 20 -200 ul - Generic	5-7	4-5	3-4
8	1-channel pipette, variable from 100 - 1000 µl - Generic	5-7	4-5	3-4
9	Analytical Balance/Precision Balance/ Weighing Balance	2-3	1-2	1-2
10	Bench top pH meter/pH meter	3-4	2-3	1-2
11	Water bath	1-2	1-2	1
12	Densitometer	2	1-2	1
13	Refrigerated bench top centrifuge	2-3	2-3	1-2
14	Universal oven	1	1	1
15	Inspissator	2-3	2-3	1-2
16	Non Refrigerated Centrifuge	2-3	2	1-2
17	Incubator(37°C, 42°C,BOD), Cooling incubator	3-4	2-3	2-3
18	Shaker/ Incubator Shaker	1	1	1
19	Bottle Washing Machine	1-2	1-2	1
20	Hot air oven	1-2	1-2	1-2
21	Distilled Water Plant	1-2	1	1
22	Laboratory Freezer(-20°C)	2-3	1-2	1-2
23	Deep Freezer(-80°C/-86°C)	1-2	1-2	1-2
24	Horizontal Autoclave	1-2	1	1
25	Vertical Autoclave	1-2	1	1
26	Flourescent Microscope/Microscope	2-3	1-2	1-2
27	Refrigerator 300L/ Refrigerator (2-8°C)/Refrigerator(4-8°C)	2-4	2-3	1-2
28	Walk in Incubator	1	1	0
29	Walk in Cold Room	1	1	0

List of Equipment for Annual Maintenance

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Category A - High Load Lab with LPA, LC and Solid (so more equipment of each category)				
Category B - Average work load Lab with LPA, LC and Solid				
Category C - low work load Lab				
Sl. No.	Item Description	Category A	Category B	Category C
		Equipment per lab	Equipment per lab	Equipment per lab
1	Laminar Flow	2	1-2	1
2	Biosafety Cabinet(Class II B1/Class II A2/ Class B2)	5-7	4-5	2-3
3	AHU Unit(Twin: Supply and Exhaust) {Motor(Supply + Exhaust+ Emergency exhaust)},AHU(Blower(Supply + Exhaust+Emergency exhaust)), HEPA Filter, Pre Filters: G4; F7;F9, Condensing Unit, Electrical and AHU Control Panel with BMS(Software and LED indicator based); Pressure Monitoring Device; Fire Fighting system; EPABX System; Access Control System;CCTV System; UPS system for back up support of AHU UV Lamp to be replaced when required	1 unit	1 unit	1 unit
4	HEPA Filter	2-3	2-3	2-3
5	Validation of BSL 3 Lab and Bio Safety Cabinets as available	24	11	3