# Notice Inviting e-Tender

## West Bengal Medical Services Corporation Limited
## Swasthya Sathi
## GN-29, Salt Lake, Sector-V
## Kolkata-700091

Phone No (033) 40340308/319
E mail: procurement@wbmsc.gov.in

**PROCUREMENT OF EQUIPMENT FOR 80 BEDDED NEONATAL INTENSIVE CARE UNIT (NICU) AT IPGMER, KOLKATA, 10 BEDDED NICU AT MURSHIDABAD MCH AND 10 BEDDED NICU AT DR. B.C. ROY PGIPS**

(Submission of Bid through *online*)

| Bid Reference No.: WBMSCL /NIT-452/2021 | Dated –31.12.2021 |
|---|---|

(2nd call to Bid Reference No.: WBMSCL /NIT-427/2021 Dated –15.12.2021)

## Revised specifications

## Neonatal incubator Bed with Weighing Scale

Description of function: A neonatal incubator provides a closed, controlled environment that warms an infant by circulating heated air over the skin. The heat is then absorbed into the body by tissue conduction and blood convection. Ideally, both the skin and core temperatures should be maintained with only mirror variations.

**A. Microprocessor controlled**

**LCD at least** 10" color TFT

**B. Setting of**

**1) Air mode servo control** (30.0-37.0$^0$C)

Override 37.0-39.0$^0$C

Display 15.0-45.0$^0$C

Resolution 0.1$^0$C

Accuracy: +-0.5$^0$C

**2) Baby mode servo control** (35.0-37.0$^0$C)

Override 37.0-38.0$^0$C

Display 15.0-45.0$^0$C

Resolution 0.1$^0$C

Accuracy: +-0.5$^0$C

**3) Humidity**

Servo humidification

Setting range 40%-90% (in 1% increments)

Display range 0%-100%

Resolution 1%

Accuracy: +-10%

Reservoir capacity 1200 ml

Humidity to be given in vapour form and not in moisture form.

**4) Oxygen control** (Optional)

Servo oxygen control

Setting range 21%-60%

Display range 21%-100%

Resolution 1%

Accuracy: +-5%

**C. Weight Scale Display** 0-7 kg

Resolution 1 gram

Accuracy +-10 gram

**D. LCD graphical Trends**

Air Temperature

Baby Temperature

Humidity

Weight

**E. Features:**

- **Double wall canopy**
- **Light weight**
- **Chamber tilting control Angle control +- 8 or10₀**
- **Door sensing** Two door Hall sensors (Detects door is open)
- **Baby bed :** Drawable and rotatable
- **Noise Level within unit** < 60dB
- **Temperature Rise time:** 30 minutes +- 20% per $10^0$C
- Air velocity over mattress <10 cm/ At 10 cm above the center of bed
- Skin Temperature probe Thermistor based Interchangeable probe Accuracy +-0.2$^0$C
- **Over Temperature Protection** Automatic cutoff of heater 39.3$^0$C
- **Mobility castors with brakes**

F. Audio visual alarm

- Baby Temperature –Low/High(+-5%)
- Air Temperature Low/High(+-5%)
- Temperature probe failure / Disconnect
- System failure
- Heater failure
- Fan failure
- Low battery
- Main power failure
- Humidity (+-10%)
- Oxygen (5%)
- Water reservoir empty

G. Visual indicator on LCD display

- Baby temperature
- Air Temperature
- Set Temperature
- AC power
- Oxygen %
- Humidity %
- Door opening

## H. Canopy

Number of main door 2

Number of portholes 4

Number of tubings iris ports1

## I. Dimensions (mm) approximately

800(L) * 500(W) * 450 (H)

Infant Mattress 680 (L) * 440(W) *40(H)

Mattress to canopy height 310

Overall 1500 (L) * 850(W)

Pressure diffusion mattress with 360 degree rotating facility (optional)

## J. Standard Technical requirements

**Power** Working voltage 110 v or 230 +-10% VAC

Power consumption 700 W or more

Model of operation Continues

Safety class I, Type B

Fuse rating 4A (230V), 8A (110V), Fast Blow

## K. Accessories Standard

- Skin temperature probe-50
- Air temperature probe-50
- Oxygen sensor (optional)
- IV pole
- Storage drawer
- 1 accessory tray
- Weighting scale
- X- ray tray

## L. Environmental Operation Storage / Transportation (Standard Specification)

Temperature operation 18 to $30^0$CC, storage 0 to $50^0$C

Humidity (Non-condensing) Max 95%

Air Pressure 700to 1060 kPa, Storage 500 to 1060 kPa

**M. Safety and Standard**: US FDA or CE ("Conformite Europeene") from European Union notified body having 4 digit identification number.

**N. Warranty**: Should have warranty for 2 years and CMC for 5 years.

**O.** Mention the cost of the following separately;

- Incubator temperature probe(skin and air)

## Neonatal Resucitation Trolly

1. Microcomputer controlled Radiant heat warmer (servo controlled) should provide controlled warmth during resuscitation of newborn babies.
2. Complete Stainless steel fabrication including trolley
3. User friendly feather touch control switches
4. Bright temperature display.
5. Separate set temperature display. Set temp range 34-38$^0$C (>37.0$^0$ override). Skin temp display 18-43$^0$C.Accuracy +/- 0.2$^0$C (31$^0$ C to 37$^0$C)
6. Display for % of heater output. Heater output 0-100%, 10% increments
7. Control mode: Air mode / Pre-warm mode and skin mode
8. Pre-warm mode with time programmable, Heater output settable, Over temperature safety cut off.
9. APGAR timer: Alerts at 1, 5 and 10 minutes.
10. Audio alarm volume control preferable
11. Safety alarms: Probe failure,>1$^0$C of set temperature, <1$^0$C of set temperature,>39$^0$C Air temperature, power failure.
12. Safety high skin temperature cut off at 39$^0$C
13. Heater box should consist of ceramic / calrod infant heater
14. The source box Should be swivel type to take X-ray
15. Examination Quartz lamp 50W with illumination >0.11 lumens / cm$^2$ (100ft.candles).
    i. Minimum 6mm thick collapsible side supports.
    ii. Baby tray with head up/down facility upto 45 degrees with thick cushion mattress
    iii. Separate X-ray guide for positioning the cassette
    iv. Open shelves, 2 nos.
16. Patient gas supply flow control range 0 -15 LPM Airway Pressure limit-Adjustable 0-50 cmH2O
17. Autobreath infant resuscitator

i. Adjustable breath rate range 18-60 BPM(+/-10% of setting)
ii. I:E ratio fixed at 1:2 Nominal
iii. Pressure (PEEP) 0-18 H2O(0-1.77 kPa)
iv. Gas bleed 5LPM Max .3
v. Precision blander (optional) 21-100% O2+/-3% 02

18. Oxygen Regulator with hose pipe, Holding to keep Oxygen cylinder of medium Size (5 liters), flow meter humidifier bottle with silicon tubings
19. Eclectically operated/ gas driven suction unit should provide safe settable suction (0-150mmHg) required for neonates
20. Two years warranty and should provide 5 years CMC after completion of warranty period
21. Demonstration compulsory
22. Training of hospital engineers & staff
23. Operating and detailed service manual should be supplied
24. Power supply: 230V AC+-10%,50HZ
25. Tropicalization: Operating room temp: upto $40^0$C
    Storage room temp: upto $60^0$C
    Relative Humidity: upto 90% Non condensing
26. Rates of consumables & accessories should be freezes for 8 years
27. Supply with each unit of Neonatal Resuscitation Trolley
    A) Suction tube: 50
    B) Temp Probe: 5
    C) Breathing circuit: 50
28. Safety and Standard US FDA or CE ("Conformite Europeene") from Eueopean Union notified body having 4 digit identification number.

## Inhaled nitric oxide ( iNO) delivery system for neonates

**1. Requirements:**

i) Microprocessor controlled Nitric oxide (NO) dosing unit.
ii) NO dosage proportional to respiratory flow and automatic synchronization with ventilator flow rate.
iii) Able to deliver 1 to 80 ppm with alarm system and selectable alarm limits (NO high alarm, NO low alarm, $NO_2$ alarm, low battery)

iv) Safety measure to check high dose supply of NO.

v) Able to supply constant NO concentration.

vi) Computerized dosing and monitoring device coupled in a single system.

vii) Continuous measurement of NO and NO2 concentration in the Inspiratory gas and in the ambient air.

viii) Portable & light weight (<10 kg)

ix) Compatible with all the major ventilator systems.

x) When one cylinder is getting emptied, it should automatically shift to the other cylinder without cessation of the therapy.

xi) Mobile trolley with mounting of at least two or more nitric oxide cylinders simultaneously. The castors should be lockable.

xii) Nitric Oxide Delivery and monitoring system having 3" or bigger LED / LCD touch screen, monitor demountable from the trolley for mobile / transport applications must be capable of the following:

xiii) Real time continuous monitoring of NO, $NO_2$ + $O_2$ with audio alarms.

xiv) Electrochemical sensor based technology.

xv) Capable of both continuous and synchronous NO delivery modes for use with neonatal patient.

xvi) NO Delivery Range : 0 to 80 ppm

xvii) Measuring Range NO: 0 to 80 ppm

$NO_2$: 0 to 15 ppm

$O_2$: 0 to 100%

xviii) Vent Flow Range: 0.5 to 50 LPM

xix) Accuracy: ±2% of reading or ±0.3 ppm, $O_2$: +/- 2, 7%

xx) Sample Line Flow Rate: 225 ml/min

xxi) Back up: 2 hours or more

xxii) Warm Up Time: less than 5 minutes.

xxiii) Should be having printer and compatible with RS 232 port.

xxiv) The company should ensure turnkey installation.

xxv) There should be memory of at least last 96 hours to see the trend of NO and $NO_2$ values.

xxvi) Software should be upgradable with any new technology available during the life of the equipment.

2. Accessories:

i) System must be supplied with all the essential accessories including the following:

a. Nefion Tube: 2

b. Wter Trap: 2

c. Nitric Oxide delivery circuit with flow sensor for Neonates: 30

d. 10 liter cylinders duly filled with 900 ppm NO and balance N2. The cylinders must be refillable in India.

3. Warranty: 2 years of warranty and additionally 5 years of CMC (including all spares, accessories and labour) from the date of completion of the satisfactory installation. The warranty charges should not be quoted separately.

4. Comprehensive Maintenance Contract (CMC):

i) The bidders should submit their quote (rates) for subsequent 5 years Comprehensive Maintenance Contract (CMC) (including all spares, accessories and labour) and these rates should be freezed.

ii) Company should ensure the supply of consumables and accessories for the period of warranty and CMC.

iii) Cylinder refilling charges of the Nitric Oxide with pick-up to drop back service at our Institute must be quoted clearly, which will remain in force for the period of warranty and CMC.

5. Operational Environment:

i) The unit should be capable of operating continuously in ambient temperature of 20-30ºC and relative humidity of 20-80%.

6. Standards:

i) Should be USFDA or European CE certified (certificates to be submitted)

ii) The Manufacturer should be ISO 9001 and ISO 13485 certified.

iii) Electrical safety conforms to standards for electrical safety IEC 60601-1 (OR EQUIVALENT international / national standard)

7. Training:

i) Onsite physical demonstration and training of the equipment to all the end users with all the requested facilities will be mandatory.

8. Manual:

i) The manual of the equipment (in English language) should be supplied along with the equipment.

9. Service:

i) Should have onsite service facility.

ii) The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service / maintenance manual.