



Notice Inviting e-Tender

West Bengal Medical Services Corporation Limited
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Kolkata-700091

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Procurement of different Medical Equipment for the Department of NICU & PICU, at
 R.G.Kar Medical College and Hospital
 (Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-316/2023

Dated-19.06.2023

Amendment-III

REVISED TECHNICAL SPECIFICATION

Item-I

Neonatal Ventilator

Specification	Specification Name	Bid Requirement (Allowed Values)
Performance Parameters	Patient Type	Neonatal
	Tidal Volume Range In ml	2 to 300
	Trigger Sensitivity Mechanism	Flow
	Flow Pattern / Waveform Adjustment	Yes
	IE Ratio range	1:10 to 4:1
	Sigh Breath Function	Yes, No
	Leak Compensation Available	Yes (100%)
	Auto 100% increase O2 Button	Yes/no
	Inspiratory Pause Available	Yes/no
	Expiratory Hold Available	Yes/no
	Suction Control Option Available	Yes
	Nasal CPAP Option Available	Yes
	Auto PEEP Manoeuvre	Yes/no
	Control Panel Lock	Yes/no
	Facility for double lung ventilation	Yes
Ventilation Modes	CMV (Controlled Mandatory Ventilation)	Yes
	Assisted / Controlled Ventilation	Yes
	PSV (Pressure supported ventilation)	Yes
	SIMV (Synchronized Intermittent Mandatory Ventilation)	Yes
	CPAP(Continuous Positive Airway Pressure)	Yes

Specification	Specification Name	Bid Requirement (Allowed Values)
	Ventilation)	
	Pressure Controlled 3 Selectable inspiratory pressure	Rectangle
	P-CMV (Inspiration pressure control)	Yes
	P-CMV With Expiratory Minimal volume	Yes
	P-CMV with minimum pressure	Yes
	SIMV (Synchronized intermittent Mandatory Ventilation) with PCMV	Yes
	ITT - Inspiratory Time Termination	Yes
	CPAP: Continuous Positive Airway pressure Ventilation CPAP With backup Ventilation	Yes
	P-CMV with Exp Volume control Available	Yes, No
	High Frequency Oscillation Ventilator (HFOV)	Yes (facility for upgradation)
High Frequency Oscillations	Frequency	5 to 20
	Amplitude	0-100
Patient Assessment Tools	Maximum Waveform Displayed	User friendly pulmonary graphics configuration for all parameters
	Maximum Trending Time	≥72
	Lung recruitment tools (PV loops)	Yes
	Stress Index	No
	Lung Mechanics Visualization Tool	Yes
	Capnography / Co2 Monitoring	Yes
	Volume Guarantee	Yes
	APRV	Yes
	Oxygen Therapy	Yes
	Esophageal / Transpulmonary pressure Monitoring	No
Integrated Capabilities	Integrated Nebulizer	Yes
	ETCO2 Inbuilt available	Yes
	Heliox Compatibility	No
	Humidifier	Yes
Monitored or Displayed	Peak Inspiratory Pressure Monitored	Yes
	Mean Airway Pressure	Yes
	PEEP Pressure	Yes
	Tidal Volume	Yes
	Minute Volume	Yes
	Spontaneous Minute Volume	Yes
	FiO2 Monitored	Yes
	Display Respiratory rate	Yes
	Display Inspiratory Time	Yes
	Display Expiratory Time	Yes
	Display I:E Ratio	Yes
Alarms	Low/High Fio2 Alarm	Yes
	Low Minute Volume Alarms	Yes
	High Minute Volume	Yes
	Low Inspiratory Pressure Alarm	Yes
	High Pressure Alarm	Yes
	Loss of PEEP Alarm	Yes

Specification	Specification Name	Bid Requirement (Allowed Values)
	Apnea	Yes
	Continuous High pressure / Occlusion Alarm	Yes
	Inverse I:E Ratio Alarm	No
	High Respiratory Rate Alarm	Yes
	High PEEP Alarm	Yes
	Breathing Circuit Disconnect Alarm	Yes
	Gas Supply Failure Alarm	Yes
	Power Failure Alarm	Yes
	Low Battery Alarm	Yes
Humidifier	Disposable Neonatal breathing circuit	100
	Water trap in expiratory limb available	Yes
	Auto Feed Humidification chamber Available, Reusable	Yes
Additional Parameters	Output Ports Type	RS-232
	Remote Alarm Display Port	Yes
	Reporting (Vent alarms and Patient Status)	No
	View Reports on Display	Yes, No
	Save Data to USB	Yes
	Send Data Via Network	Yes
	Display Type	Dimmable color Capacitive touchscreen, TFT
	Display Size in Inches	≥ 15
	Can be used For Patient Transport	No
	In Built Air Compressor / Turbine	Yes
Accessories	Number of neonatal Reusable silicon breathing circuits with each machine	10 units
	Reusable Nasal masks with Nasal tubings with each machine	100 (50 term & 50 preterm)
	Type of Flow Sensor (Hot air anemometer)	Reusable (10)
	Bonnet/Cap (of different sizes)	100
	No of Disposable flow sensor (Hot air anemometer)	NA if Reusable
	Trolley with ventilator with supporting arm from same manufacturer	Yes
	Autoclavable exhalation valve / expiratory cassette	2
	Test Lung Available	Yes
Power Requirements	Type of battery	Lead acid
	Operating time of battery in min	60

Additional Specification Parameters - Neonatal Ventilator

Specification Parameter Name	Bid Requirement (Allowed Values)
Ventilation mode	Pressure controlled ventilation: CMV, SIMV, ACMV, PSV, MMV/ auto mode, VG,APRV Non Invasive Modes: CPAP, Non-invasive positive pressure ventilation (NIPPV),O2-therapy Volume guarantee mode of ventilation, facility for combination with SIMV, ACMV & PSV
Pressure controlled ventilation: CMV, SIMV, ACMV, PSV, MMV, APRV Non Invasive Modes: CPAP, Non-invasive positive pressure	Mandatory

Specification	Specification Name	Bid Requirement (Allowed Values)
ventilation (NIPPV),O2-therapy		
Servo Control Humidifier (US FDA approved)	Mandatory	
Peak inspiratory pressure(cm ofH2O) 1 – 65 Positive end expiratory pressure(cm of H2O) 0 – 30 Fraction of inspired oxygen (%) 21 –100 Inspiratory time (sec) 0.10 – 4	Mandatory	
Rate (per min) 1–150 Expiratory Tidal volume (Volume targeted mode) ml 2–100 Maximum flow during non invasive ventilation 0–30 lpm Inspiratory flow 2–30 lpm	Mandatory	
Warranty & certification	2 years & 4 digit European CE / US FDA	