

**TAMILNADU MEDICAL SERVICES CORPORATION LTD.,**

**ICB TENDER FOR SUPPLY AND INSTALLATION OF VENTILATORS  
FOR TERTIARY CARE HOSPITALS AT GOVT. RAJAJI HOSPITAL -  
MADURAI, GOVT. KILPAUK MEDICAL COLLEGE HOSPITAL -  
CHENNAI AND GOVT. COIMBATORE MEDICAL COLLEGE HOSPITAL  
- COIMBATORE IN TAMILNADU**

**PKG6/C1/ICB/TNUHP/ JICA/TNMSC/ENGG/ 2022, dt. 29.07.2022**

a) The following corrigendum are issued:-

<b>Sl. No.</b>	<b>Tender document reference</b>	<b>Instead of</b>	<b>Read as</b>
1.	Page No.94 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b> 1. Principle	Time cycled, volume constant, pressure - controlled ventilator suitable for use with both high pressure and low-pressure Oxygen sources for adult and pediatric patients with minimum tidal volume of 50 ml. The ventilators should be an upgradeable design with software and / or hardware upgradeability for new/ future functions..	Time cycled, volume constant, pressure - controlled ventilator suitable for use with both high pressure and low-pressure Oxygen sources for adult and pediatric patients with <b>minimum tidal volume of 20 ml.</b> The ventilators should be an upgradeable design with software and / or hardware upgradeability for new/ future functions.
2.	Page No.94 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b>  <b>2. Use and application:</b>	c. Non- invasive ventilation should be possible in all modes from control to spontaneous - for cases of difficult intubation ( eg: Short neck etc).	<b>c. Non- invasive ventilation should be possible in pressure modes.</b>
3.	Page No.94 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>	b. Battery - Internal Battery with minimum 45 minutes to four-hour	b. Battery - Internal Battery with <b>minimum 45 minutes to two-</b>

Sl. No.	Tender document reference	Instead of	Read as
	<p><b><u>Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>3. Power -The ventilator should run on both mains and battery as below:</p>	<p>battery backup with onscreen battery power indication.</p>	<p><b>hour battery</b> backup with onscreen battery power indication.</p>
4.	<p>Page No.94</p> <p><b><u>Section VI: Schedule of Requirements</u></b></p> <p><b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>3. Power -The ventilator should run on both mains and battery as below:</p>	<p>c. External/ Additional battery backup - 4 hours (may be offered separately) and should be flush mounted on the trolley.</p>	<p><b>c. External/ Additional battery backup - at least 1 hour</b> (may be offered separately) and should be flush mounted on the trolley.</p>
5.	<p>Page No.94</p> <p><b><u>Section VI: Schedule of Requirements</u></b></p> <p><b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>3. Power -The ventilator should run on both mains and battery as below:</p>	<p>d. The batteries - internal and/ or external - should also power the air source.</p>	<p>The internal battery with minimum <b>45 minutes to two hours</b>. The <b>external / additional battery backup for at least one hour</b>.</p>
6.	<p>Page No.94</p> <p><b><u>Section VI: Schedule of Requirements</u></b></p> <p><b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p>	<p>a. For delivering continuous flow up to 250 lpm in spontaneous breathing mode with pressure support</p>	<p>a. For delivering continuous flow upto <b>180 lpm or more</b>. For <b>achieving better leak compensation in NIV and flow demand of the patient</b>.</p>

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	4. Air Source- Integrated internal air source such as turbine / blower/compressor as the ventilator will be used in areas with limited / no central air compressor		
7.	Page No.94 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b>	4. Air Source- Integrated internal air source such as turbine / blower/compressor as the ventilator will be used in areas with limited / no central air compressor	4. Air source - <b>integrated internal (turbine / piston / blower) or external (compressor)</b> as the ventilator will be used in areas with limited / no central air compressor.
8.	Page No.95 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b>	5. Graphical Interface - All commands and settings should be through an integrated 12-inch colour touchscreen as below:	<b>5. Integrated 10" or more color touchscreen display along with encoder knob facility to be provided for dual safety incase of touch screen failure.</b>
9.	Page No.95 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b> 5. Graphical Interface - All commands and settings should be through an integrated 12-inch colour touchscreen as below:	b. The curve should be filled curves for easy viewing at a distance.	<b>b. The curve should be clear for easy viewing at a distance.</b>
10.	Page No.95 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>	10. There should be a day / night mode for easy viewing at night.	10. There should be a <b>day / night mode or bright display for easy viewing at night.</b>

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	<p><b><u>Technical Specification for Ventilators</u></b></p>		
11.	<p>Page No.95  <b><u>Section VI: Schedule of Requirements</u></b>  <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p>	<p>11. The waveforms and numerical readings should be freely configurable as per user wish in ANY order:  a.Valve response time- The ventilator should have extremely sensitive valve with response time <math>\leq 5</math> msec for ensuring quick delivery of gases during spontaneous breathing (to be shown in operating manual or technical data sheet).</p>	<p><b>11. The waveforms and numerical readings should be freely configurable as per user wish in ANY order: a.Valve response time- The ventilator should have an extremely sensitive valve with response time <math>\leq 5</math> msec for ensuring quick delivery of gases during spontaneous breathing.</b></p>
12.	<p>Page No.95  <b><u>Section VI: Schedule of Requirements</u></b>  <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>11. The waveforms and numerical readings should be freely configurable as per user wish in ANY order:</p>	<p>c) Oxygen cell -The ventilator should have low operating costs with a permanent / non consumable O<sub>2</sub> sensor for FiO<sub>2</sub> monitoring. Same should be offered as standard</p>	<p>c) Oxygen cell -The ventilator should have low operating costs with a <b>permanent / non consumable O<sub>2</sub> sensor / Galvanic O<sub>2</sub> sensor for FiO<sub>2</sub> monitoring.</b> Same should be offered as standard. <b>The O<sub>2</sub> sensor should be covered under warranty / CAMC.</b></p>
13.	<p>Page No.96  <b><u>Section VI: Schedule of Requirements</u></b>  <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p>	<p>e. Humidifier: The ventilator should be supplied with either a simple heated humidifier or servo - controlled humidifier with: Dual limb Adult and pediatric hoses.</p>	<p><b>e. Humidifier: The ventilator should be supplied with a servo-controlled humidifier with: Dual limb Adult and pediatric hoses".</b></p>

Sl. No.	Tender document reference	Instead of	Read as
	11. The waveforms and numerical readings should be freely configurable as per user wish in ANY order:		
14.	Page No.96 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b> 11. The waveforms and numerical readings should be freely configurable as per user wish in ANY order:	f. Heating control temperature measurement and display	<b>f. Deleted.</b>
15.	Page No.96 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b> 12. Flow Sensor:	a.The flow sensor should be heated wire type for higher accuracy.	a. Flow sensor should be <b>heated wire/differential pressure/ultrasonic or Proximal Sensor type or equivalent for higher accuracy and should be covered under warranty and CAMC.</b>
16.	Page No.96 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b> 12. Flow Sensor:	b. It should calibrate within 5 seconds and without necessity to disconnect the patient.	<b>b. Deleted</b>

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17.	Page No.96 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 12. Flow Sensor:	c.It should be easily replaceable without disassembling the machine or disassembling the expiratory valve or stopping ventilation patient is being ventilated.	<b>c. Deleted</b>
18.	Page No.96 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u>	13. Disposables- For highly infectious diseases, disposable patient hoses, disposable expiratory valves and disposable NMEs for adults and pediatrics should be offered as per scope of supply.	<b>13. Disposables- For highly infectious diseases, disposable patient hoses and disposable NMEs for adults and pediatrics should be offered as per scope of supply.</b>
19.	Page No.96 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u>	14. Suction / Oxygen enrichment - 100 % O2 enrichment for 3 minutes with automatic time countdown.	<b>14. Suction / Oxygen enrichment 100 % O2 enrichment for 2 or more minutes with automatic time countdown</b>
20.	Page No.96 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u>	15. Modes of Ventilation - The ventilator should have the following ventilation modes as standard with quick touchscreen-based operation / change from one mode to another:	15. Modes of Ventilation - The ventilator should have the following ventilation modes as standard with quick <b>touchscreen-based operation and through an encoder knob for dual patient safety in case of touch screen failure</b> / change from one mode to another:

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21.	<p>Page No.96  <u><b>Section VI: Schedule of Requirements</b></u>  <u><b>3. Technical Specifications</b></u></p> <p><u><b>Technical Specification for Ventilators</b></u></p> <p>15. Modes of Ventilation - The ventilator should have the following ventilation modes as standard with quick touchscreen-based operation / change from one mode to another:</p>	<p>b. Pressure control - PC - BIPAP as one mode from intubation to extubation, PC- AC</p>	<p>b. Pressure control - PC - <b>BIPAP/APRV</b> as one mode from intubation to extubation, PC- AC.</p>
22.	<p>Page No.96  <u><b>Section VI: Schedule of Requirements</b></u>  <u><b>3. Technical Specifications</b></u></p> <p><u><b>Technical Specification for Ventilators</b></u></p> <p>15. Modes of Ventilation - The ventilator should have the following ventilation modes as standard with quick touchscreen-based operation / change from one mode to another:</p>	<p>c. Sigh -pressure oriented sigh to avoid volutrauma / barotraumas</p>	<p>c. Sigh -<b>pressure limited sigh/ volume oriented sigh to avoid volutrauma/ barotraumas.</b></p>
23.	<p>Page No.96  <u><b>Section VI: Schedule of Requirements</b></u>  <u><b>3. Technical Specifications</b></u></p>	<p>d. Should be adjustable above the set PEEP.</p>	<p><b>d. Deleted.</b></p>

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	<p><b><u>Technical Specification for Ventilators</u></b></p> <p>15. Modes of Ventilation - The ventilator should have the following ventilation modes as standard with quick touchscreen-based operation / change from one mode to another:</p>		
24.	<p>Page No.97  <b><u>Section VI: Schedule of Requirements</u></b>  <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>15. Modes of Ventilation - The ventilator should have the following ventilation modes as standard with quick touchscreen-based operation / change from one mode to another:</p>	<p>e. Automatically available every 3 minutes for 2 breaths.</p>	<p><b>e. Deleted.</b></p>
25.	<p>Page No.97  <b><u>Section VI: Schedule of Requirements</u></b>  <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p>	<p>19. MMV/ASV/ Auto Mode or equivalent single mode for ventilating from control mode to spontaneous.</p>	<p>19. <b>MMV/ASV/ AVM/Auto Mode/PRVC-SIMV or equivalent</b> single mode for ventilating from control mode to spontaneous.</p>



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26.	Page No.97 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u>	20. Automatic Tube Compensation - should be available for both intubated and tracheostomy patients with adjustable tube size (3.5 - 12 mm) in 0.4 mm increments in all ventilation modes.	<b>20. Deleted.</b>
27.	Page No.97 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> <i>Non - Invasive Ventilation:</i>	a. Should be possible to be used in all modes - from control to spontaneous for cases of difficult intubation ( eg : short neck etc.,)	<b>20.a. Deleted.</b>
28.	Page No.97 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u>	21. Inspiration Hold key for maximum of 15 seconds.	<b>21. Inspiration Hold key for maximum of 10 to 15 seconds.</b>
29.	Page No.97 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u>	22. Expiration Hold for Maximum of 15 seconds / Auto PEEP maneuver with trapped volume measurement.	<b>22. Expiration Hold for Maximum of 10 seconds / Auto PEEP maneuver with trapped volume measurement.</b>
30.	Page No.97 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>	a) Tidal Volume in Volume modes: 50ml to 2000 ml	a) Tidal Volume in Volume modes: <b>20ml to 2000 ml</b>

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	<p><b><u>Technical Specification for Ventilators</u></b></p> <p>23. Should have BTPS compensated settings for:</p>		
31.	<p>Page No.97 <b><u>Section VI: Schedule of Requirements 3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>23. Should have BTPS compensated settings for:</p>	b) Inspiratory Pressure: 1-99 cmH20	b) Inspiratory Pressure: <b>1-50 cmH20.</b>
32.	<p>Page No.97 <b><u>Section VI: Schedule of Requirements 3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>23. Should have BTPS compensated settings for:</p>	c) CPAP/PEEP / Intermittent PEEP: 0-50 cmH20	c) CPAP/PEEP / Intermittent PEEP: <b>0-35 cmH20</b>
33.	<p>Page No.97 <b><u>Section VI: Schedule of Requirements 3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>23. Should have BTPS compensated settings for:</p>	<p>d) Inspiratory Rate : 2 - 80 bpm</p> <p>e) Inspiratory Time: 0.2 - 10 sec</p>	<p>d) Inspiratory Rate: <b>5 - 60 bpm or more.</b></p> <p>e) Inspiratory Time: <b>0.3 - 5 sec or more.</b></p>

Sl. No.	Tender document reference	Instead of	Read as
34.	Page No.98 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 23. Should have BTPS compensated settings for:	(j) Capnography: mainstream sensor based with display of ETCO2 curve and values.	(j) Capnography: mainstream sensor based with display of ETCO2 curve and values. <b>ETCO2 monitoring (mainstream) as optional.</b>
35.	Page No.98 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 23. Should have BTPS compensated settings for:	i) Inspiratory hold: 0 - 15 sec	i) Inspiratory hold: <b>0 - 10 sec or more.</b>
36.	Page No.98 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 23. Should have BTPS compensated settings for:	j. Expiratory hold: 0 - 15 sec	j) Expiratory hold: <b>0 - 10 sec</b>
37.	Page No.97 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u>	o) Inspiration termination Criteria : 5 - 75 % of Peak Inspiratory Flow	o) Inspiration termination Criteria : 5 - 75 % of Peak Inspiratory Flow <b>or 3-30 litres / minute or more.</b>

Sl. No.	Tender document reference	Instead of	Read as
38.	Page No.98 <u><b>Section VI: Schedule of Requirements 3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 23. Should have BTPS compensated settings for:	p) High Flow Oxygen Therapy: 2 -100Ipm	p) High Flow Oxygen Therapy: <b>2 - 80 lpm or more</b>
39.	Page No.98 <u><b>Section VI: Schedule of Requirements 3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 24. Should have BTPS compensated real time monitoring of:	j) Capnography (Optional) with CO2 curve and ETCO2 value	<b>j) Capnography with CO2 curve, SpO2 and ETCO2 values (optional).The rates for optional items may be quoted separately in the Price bid.</b>
40.	Page No.98 <u><b>Section VI: Schedule of Requirements 3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u>	h) Airway Temperature (if active humidifier is used).	<b>h) Deleted.</b>
41.	Page No.98 <u><b>Section VI: Schedule of Requirements 3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 25. Should have three	e) High / Low ETCO2 (optional)	e) High / Low ETCO2 as part of standard supply.

Sl. No.	Tender document reference	Instead of	Read as
	level (Advice - Caution - Warning) ISO alarm management with different audio visual color coded alarms, including corrective help messages on the screen for:-		
42.	Page No.99 <b><u>Section VI: Schedule of Requirements 3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b>	26. Basic Unit (220- 240 V) with integrated 12-inch touch screen and integrated internal battery to power internal turbine / air source.	26. Basic Unit (220- 240 V) with <b>integrated 10-inch or more touch screen</b> and integrated internal battery to power internal turbine / air source.
43.	Page No.99 <b><u>Section VI: Schedule of Requirements 3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b>	28. Simple heated or Servo controlled humidifier for non - invasive, invasive and high flow oxygen therapy with 1 set reusable Silicon Hose set for Adults. 1 Set reusable silicon Hose set for children with chambers for adult and paediatric patients. High flow oxygen therapy accessories (to be quoted and offered for 50 patients).	28. <b>Servo controlled humidifier</b> for non - invasive, invasive and high flow oxygen therapy with 1 set reusable Silicon Hose set for Adults. 1 Set reusable silicon Hose set for children with chambers for adult and paediatric patients. High flow oxygen therapy accessories (to be quoted and offered for 50 patients).
44.	Page No.99 <b><u>Section VI: Schedule of Requirements 3. Technical Specifications</u></b>  <u>Technical Specification for Ventilators</u>	28)a) Heated Flow sensor - 10 Nos.	28)a) <b>Reusable heated / differential flow sensor - 2 Nos, should be covered under warranty and CAMC.</b>
45.	Page No.100 <b><u>Section VI: Schedule of Requirements 3. Technical</u></b>	c. Indian Subsidiary / dealer should have nationwide network,	c. Indian Subsidiary / dealer should have nationwide network,

Sl. No.	Tender document reference	Instead of	Read as
	<p><b><u>Specifications</u></b></p> <p><u>Technical Specification for Ventilators</u></p> <p>33. Quality Standards and support requirements:</p>	<p>support offices and must be also to ISO 9001 Certified.</p>	<p>support offices and must be also to <b>ISO 9001 / ISO 13485</b> Certified.</p>
46.	<p>Page No.100</p> <p><b><u>Section VI: Schedule of Requirements</u></b></p> <p><b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>34. Optional equipment / features to be quoted indicating separate price</p>	<p>a. Low Pressure Oxygen - LPO</p> <p>b. Connection for use with low pressure source such as Oxygen concentrator.</p> <p>c. O<sub>2</sub> flow: 0.35 - 10 l/min</p> <p>d. Connecting hose nozzle 6 mm diameter</p>	<p><b>The following items should be part of standard supply:</b></p> <p><b>a. Low Pressure Oxygen (LPO) should be standard with in the ventilator for intra hospital transport and to connect to the oxygen cylinders directly in case of emergencies.</b></p> <p><b>b. Connection for use with low pressure source such as Oxygen concentrator.</b></p> <p><b>c. O<sub>2</sub> flow: 0.35 - 10 l/min</b></p> <p><b>d. Connecting hose nozzle 6 mm diameter.</b></p>
47.	<p>Page No.100</p> <p><b><u>Section VI: Schedule of Requirements</u></b></p> <p><b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p> <p>35. Extended battery backup:</p>	<p>a. Up to 5 hours of operation</p>	<p><b>Extended/ additional battery backup:</b></p> <p><b>a. at least 1 hour of operation</b></p>

Sl. No.	Tender document reference	Instead of	Read as
48.	Page No.100 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b>	37. Capnography: mainstream sensor based with display of WRCO2 curve and values.	37. Capnography: mainstream sensor based with display of ETCO2 curve and values <b>as optional. The rate for optional items should be quoted separately in the price bid.</b>
49.	Page No.100 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b>	--	<b>To add the following points at the end of technical specifications:</b>  <b>38. Should have facility to upgrade to Neonatal category.</b>  <b>39. Neonatal modes: Tidal volume - 5 ml, TCPL, SIMV +TCPL + PSV, N-CPAP (with continuous flow).</b>

b) The following clarifications are issued:-

Sl. No.	Tender document reference	Points raised	Clarification Furnished
1.	Page No.94 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b>  c. External/ Additional battery backup - 4 hours (may be offered separately) and should be flush mounted on the trolley	Requested to delete this point.	No Change. Hence, published technical specifications prevail.
2.	Page No.100 <b><u>Section VI: Schedule of Requirements</u></b>	Requested to delete this point.	No Change. Hence, published technical

Sl. No.	Tender document reference	Points raised	Clarification Furnished
	<p><b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b>  35. Extended battery backup:  b. Suitable for conformal fit on trolley</p>		specifications prevail.
3.	<p>Page No.95  <b><u>Section VI: Schedule of Requirements</u></b>  <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b>  5. Graphical Interface - All commands and settings should be through an integrated 12-inch colour touchscreen as below:  a. At least 3 curves from pressure, flow, volume or Capnography (optional)</p>	<p>Requested to :  a) remove Capnography (optional).    b) 3 curves- pressure, flow, volume.</p>	No Change. Hence, published technical specifications prevail.
4.	<p>Page No.95  <b><u>Section VI: Schedule of Requirements</u></b>  <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b>  5. Graphical Interface - All commands and settings should be through an integrated 12-inch colour touchscreen as below:  c. Any loops from PV, FV, PF should be displayed in any combination such as:  i. Waveforms + loops</p>	<p>a) Requested to amend as waveforms + loops.    b) Requested to remove this point.  c) Requested to consider only loops.</p>	No Change. Hence, published technical specifications prevail.
5.	<p>Page No.95  <b><u>Section VI: Schedule of Requirements</u></b>  <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b>  6. It should be possible to freeze the loops and calculate inflection points with a cursor.</p>	<p>M/s Medifocus:  Requested to amend as:  The machine should have lung recruitment maneuver as standard option" to recruit the lung possible to measure optimum PEEP to avoid collapse</p>	No Change. Hence, published technical specifications prevail.



Sl. No.	Tender document reference	Points raised	Clarification Furnished
		of the lungs (Lower inflection point).	
6.	Page No.95 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 7. It should be also possible to keep a reference point for loops. 8. Integrated Graphical trend for 24 hours should be available for monitored parameters.	Requested to amend as: 7. It should be also possible to keep a reference point for loops or loops saving facility. 8. Integrated Graphical trend for 72 hours should be available for monitored parameters.	No Change. Hence, published technical specifications prevail.
7.	Page No.95 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 9. Integrated Tabular trend also should be available.	Requested to amend as: a) Integrated Tabular / Graphical trend also should be available.  b) Integrated Graphical trend for 72 hours should be available for monitored parameters.	No Change. Hence, published technical specifications prevail.
8.	Page No.97 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u> 23. Should have BTPS compensated settings for: f) Flow acceleration/  Flow adjustment: 5 - 200 mbar / inspiratory flow upto 180 lpm	Requested to amend as: a) Flow acceleration/ Flow adjustment: 5 -200 mbar / inspiratory flow up to 180 lpm or flow patterns.  b) Flow acceleration/ Flow adjustment: inspiratory flow up to 150 lpm or more.	No Change. Hence, published technical specifications prevail.
9.	Page No.97 <u><b>Section VI: Schedule of Requirements</b></u> <u><b>3. Technical Specifications</b></u>  <u><b>Technical Specification for Ventilators</b></u>	Requested to amend as: g) Flow Trigger (preferred for higher sensitivity) : 1-15 lpm / 0 to 5 cm H2O or more.	No Change. Hence, published technical specifications prevail.

Sl. No.	Tender document reference	Points raised	Clarification Furnished
	23. Should have BTPS compensated settings for: g) Flow Trigger (preferred for higher sensitivity) : 1-5 lpm h) Pressure support : 0 - 50cmH2O above PEEP	h) Pressure support: 3 - 35cmH2O or more above PEEP.	
10.	Page No.97 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b> 23. Should have BTPS compensated settings for: k) Sigh (Pressure oriented) 0 - 35 cmH2O, every 3 minutes for 2 cycles	a) Requested to remove this point.  b) Requested to amend as: Sigh (Pressure / Volume oriented) 0 - 35 cmH2O, every 3 minutes for 2 cycles.	No Change. Hence, published technical specifications prevail.
11.	Page No.98 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <b><u>Technical Specification for Ventilators</u></b> 23. Should have BTPS compensated settings for: n) Automatic attitude compensation : 700 - 1060 hPa / mbar / CmH2O	Requested to amend as: a) Automatic attitude / bauometric compensation  b) Requested to remove this point.	No Change. Hence, published technical specifications prevail.
12.	Page No.99 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b>  <u>Technical Specification for Ventilators</u> c) O2 cell - should be non-consumable and should lifelong. In case consumable / electro chemical O2 cells are to be offered by a vendor, the same should be provided at free of charge for operational lifetime of equipment for 10 years.	Requested to amend as:  O2-cell should be non-consumable and should lifelong. In case consumable / electro chemical O2 cells are to be offered by a vendor.	No Change. Hence, published technical specifications prevail.
13.	Page No.100 <b><u>Section VI: Schedule of Requirements</u></b>	Requested to amend as:	No Change. Hence, published technical

Sl. No.	Tender document reference	Points raised	Clarification Furnished
	<p><b><u>3. Technical Specifications</u></b></p> <p><u>Technical Specification for Ventilators</u> 28)d) v) Disposable expiratory valves for use with the machine - 20 Nos.</p>	<p>a) Disposable expiratory valves for use with the machine - 3 Nos".</p> <p>b) Disposable expiratory valves for use with the machine - 20 Nos (or) reusable expiratory valve - 2 nos.</p>	<p>specifications prevail.</p>
14.	<p>Page No.100 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b></p> <p><u>Technical Specification for Ventilators</u></p> <p>33. Quality Standards and support requirements: a.The offered unit should have European CE or US-FDA certificate.</p>	<p>Requested to amend as:</p> <p>The offered unit should have European CE and US-FDA certificate.</p>	<p>No Change. Hence, published technical specifications prevail.</p>
15.	<p>Page No.100 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b></p> <p><u>Technical Specification for Ventilators</u></p> <p>34. Optional equipment / features to be quoted indicating separate price: a. Low Pressure Oxygen - LPO b. Connection for use with low pressure source such as Oxygen concentrator c. O2 flow : 0.35 - 10 l/min d. Connecting hose nozzle 6 mm diameter</p>	<p>Requested to remove this point.</p>	<p>No Change. Hence, published technical specifications prevail.</p>
16.	<p>Page No.100 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for</u></b></p>	<p>Requested to amend as:</p> <p>a) APRV mode: adjustment of P - high,</p>	<p>No Change. Hence, published technical specifications prevail.</p>

Sl. No.	Tender document reference	Points raised	Clarification Furnished
	<p><b><u>Ventilators</u></b> 36. APRV mode: adjustment of P - high, P - low, T- high, T-Low</p>	<p>P - low, T- high, T-Low should be offered as part of standard supply.</p> <p>b) APRV / BiPAP mode: adjustment of P - high, P - low, T- high, T- Low-should be offered as standard.</p> <p>c) Requested to remove this point.</p>	
17.	<p>Page No.100 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p>	<p>Requested to add the following points at the end of technical specifications:</p> <p>a) Should have inbuilt module slot to attach BIS, AGM and ETCO2 modules and to display the monitored values and waveforms on the ventilator display as and when required.</p> <p>b) The circle absorber should be fully autoclavable at 134 degree C and latex free made from PPSU material.</p>	No Change. Hence, published technical specifications prevail.
18.	<p>Page No.100 <b><u>Section VI: Schedule of Requirements</u></b> <b><u>3. Technical Specifications</u></b></p> <p><b><u>Technical Specification for Ventilators</u></b></p>	<p>Requested to add the following points at the end of technical specifications:</p> <p>1. Spontaneous breathing trial &amp; Stress index.</p> <p>2. Facility to calculate</p>	No Change. Hence, published technical specifications prevail.

<b>Sl. No.</b>	<b>Tender document reference</b>	<b>Points raised</b>	<b>Clarification Furnished</b>
		lower and upper inflection point.	

All other terms and conditions of the tender remain unaltered.

The above forms part of the bidding documents. The bidder shall upload the copy of this corrigendum duly signed by their authorized signatory, along with their bid.

**Sd/-**  
**General Manager (E)**