

CH. PERVAIZ ELAHI INSTITUTE OF CARDIOLOGY, MULTAN

TECHNICAL COMPARATIVE STATEMENT FOR THE YEAR 2015.16

NAME OF EQUIPMENT: ANESTHESIA MACHINE WITH BUILT-IN VENTILATOR

	M/S Vertex Enterprises	M/S Shirazi Trading	M/S Total Technologies
Specification			
Model	Primus	Avance CS2	Leon Plus
Make	Dargerwerk	GE	Heinen+Lowenstein
Country of Origin: USA / Europe / Japan	Germany	USA/EU	Germany
Authorization	31.12.2016	31.12.2016	01.08.2017
Certification: (FDA / CE / JIS)	FDA/CE	FDA/CE	Not Provided
Warranty: 5 Years Comprehensive with parts & spare including backup services	5 Years	5 Years	5 Years
PHYSICAL / TECHNICAL CHARACTERISTICS			
1	3 Gas Anesthesia Workstation, O2, N2O and Air Up to 1x O2 and 1x N2O Cylinder can be connected	3 Gas, 1 Cylinder of O2 & N2O can be connected	3 Gas, 1 Cylinder of O2 & N2O can be connected
2	Gauges for Central Piping 1x O2 and 1x N2O and 1x Air	Gauges of Air/Oxygen available but N2O not available, accepted as minor deviation	Gauges of Air/Oxygen available but N2O not available, accepted as minor deviation
3	Gauges for Cylinders 1x O2, 1x N2O	Not Available, accepted as minor deviation	Electronic display of cylinder pressure on screen, accepted as minor deviation
4	Pressure Gauges for pipeline and cylinders are on Main Working Surface	Only pipelines not cylinders gauges available, accepted as minor deviation	Only pipelines not cylinders gauges available, accepted as minor deviation
5	Must have 4 meter high quality pipe for O2, Air, N2O with NIST/DIN standard (I.O to specify)	4Meter NIST	4 meter NIST
6	1x Monitoring Shelf	Monitoring shelf	Monitoring shelf
7	Common Gas Outlet	Gas out let	Gas out let
8	Side Rails and Centrally Braked Castors with Large Brake Paddle	TE compliance	TE compliance
















Specification	M/S Vertex Enterprises	M/S Shirazi Trading	M/S Total Technologies
9 Drawer unit- 1 or more	1 Drawer	2 Drawer	3 Drawer
10 Table or Writing platform	TE Complaine	Table platform	Table platform
11 O2 Flush	>35 l/min	>35 l/min	35 l/min
12 Fresh Gas Outlet	TE Complaine	TE Complaine	TE Complaine
13 Auxilliary flow meter (Digital)	Yes Offered	Analog Offered, accepted as minor	Not offered
14 Anesthesia Machine should be capable of working at Low Flow Anesthesia	Volume Mode: 5ml Pressure Mode: 10ml	Low flow	Low flow capability not offered
15 Scavenging System	TE Complaine	TE Complaine	Not offered
16 Venturi Suction	TE Complaine	TE Complaine	Integrated
17 Circle/CO2 Absorber, fully Autoclavable, including Bag/Vent switch, CO2 by pass	1.5 L absorber Bag/Vent switch & CO2 bypass not available but can changed through CLIC option, accepted as minor deviation	800gm absorbar, Bag/Vent switch but Co2 bypass not available , accepted as minor deviation	2 L absorbar Bag/Vent switch & CO2 bypass not available but can changed through CLIC Option, accepted as minor deviation
18 Complete with mounting bracket, disposable patient circuit, absorber detachable including Y-piece circuit, bag	TE Complaine	TE complaine	TE complaine
19 Vaporizers: Tested, Temperature compensated, interlock with refill keys	TE Complaine	TE complaine	TE complaine
20 2 Station Selectatec Back bar to accommodate up to two vaporizers at a time	TE Complaine	TE complaine	TE complaine
21 1x Vaporizer, Selectatec Type, Isoflurane	Selectatec, Model: 2000	Selectatec, Model: Tec 7	Selectatec, or Drager equivalent
22 1x Vaporizer, Selectatec Type, Sevoflurane	Selectatec, Model: 2000	Selectatec, Model: Tec 7	Selectatec, or Drager equivalent
23 1 Pin Index Cylinders for O2	Certified brand new locally supplied	Certified brand new	Certified not offered
24 1 Pin Index Cylinders for N2O	Certified brand new locally supplied	Certified brand new	certified not offered









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25	ELECTRONIC / DIGITAL FLOW METERS		
26	Three Gas Configurations (O2, N2O and Air)	3 Gases	3 Gases
27	O2 and Air: 0 to 12 LPM	TE Compliance	TE Compliance
28	N2O: 0 to 12 LPM	TE Compliance	TE Compliance
29	Thermal Mass Flow Sensor Type	Thermal flow sensor	infrared sensor
30	Electronic Hypoxic Guard for minimum of 25% O2	Electronic	Electronic not available
31	Agent Monitoring for Iso/Sevo/Des	ISO/SEVO/DES	TE Compliance
32	Low flow oxygen at 200ml flow meter	TE Compliance	TE Compliance
33	ANESTHESIA VENTILATOR BUILT-IN (Paeds to Adult)		
34	Microprocessor Controlled Anesthesia Ventilator	Microprocessor based, pneumatic driven, electronically controlled	Microprocessor based, pneumatic driven, electronically controlled
35	Full Colour Minimum 8" or more LCD / TFT Touch Screen Display Automatic Leak and Compliance Test	15" TFT, Automatic leak & compliance test	15" TFT, Automatic leak & compliance test
36	Ventilation Modes: Volume Control, Pressure Control. SIMV+PSV, Pressure Support, CPAP, Spontaneous manual	All modes available	All modes available except CPAP
37	Ventilator Monitoring:	TE Compliance	TE Compliance
38	Oxygen (F102), Inspired & Expired Volumes, Paw, Pressure, Real Time Waveforms for Flow, Volume, & Pressure	TE Compliance	TE Compliance
39	Tidal Volume: 05 — 1400 ml	5 to 1500ml	3 to 600ml
40	IE Ratio: 1:2	2:1 to 1:8	4:1 to 1:4
41	Frequency: 4 — 60 bpm	4 to 100bpm	4 to 100bpm
42	Minute Volume: 0.3 — 25 LPM	0.1 to 99.9 L/M	0 to 50L/M
43	Pressure Limit: 10 - 70 cmH2O (Adult)	12 - 100cmH2O	5 - 100cmH2O
44	10-50 cmH2O (Paeds)	5 - 60cmH2O	5 - 80cmH2O
45	PEEP: 3 — 20 cmH2O	4 - 30cmH2O	1 - 20cmH2O
46	Patient Trigger: 1 — 10 LPM	1 to 10L/M	1 to 10L/M


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Shirazi


Vertex

Specification	M/S Vertex Enterprises	M/S Shirazi Trading	M/S Total Technologies
47	Battery Back Up of 30 minutes Minimum. 30Mins	30min	>100Mins
48	User Alarms: High/Low Pressure; High/Low Minute Volume; High/Low Breath Per Minute (BPM); High/Low Oxygen Static Alarms: Apnea, Low Supply Gas, TE Compliance	TE Compliance	TE Compliance
49	No Charge, Fresh Gas Too High, Ventilator Inoperative, Under Pressure, Power Fail, Battery Low, Apnea Alarm in Bag Mode TE Compliance	TE Compliance	TE Compliance
50	Electronic Gas Mixing Electronic mixing	Electronic Mixing	Electronic Mixing
51	Spirometry Loops Loops	Spirometry loops	Spirometry loops
52	Heart Lung Mode HLM	Cardiac bypass mode	HL Mode
53	User service manuals with error code book. Not Offered	TE Compliance	TE Compliance
54	User Manual TE Compliance	TE Compliance	TE Compliance
55	In case of electricity and battery failure, manual ventilation, gas delivery and agent delivery should be possible. TE Compliance	TE Compliance	No Detail provided
REMARKS	Technically accepted	Technically accepted	Technically rejected


Dr. Haider Zaman
 Prof. of Cardiac Surgery
 CPEIC, Multan
(Chairman)

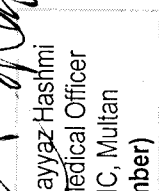

Dr. Rana Altaf
 Prof. of Anesthesia
 CPEIC, Multan
(End-User)



Dr. Tariq Abbas
 Associate Prof. of Cardiology
 CPEIC, Multan
(Member)



Dr. Sohail Ahmad
 Assist. Prof. Anaesthesia
 CPEIC, Multan
(Member)


Dr. Muhammad Moeen
 Sr. Cardiac Surgery
 CPEIC, Multan
(Member)


Dr. Sohail Saleemi
 Sr. Registrar Cardiology
 CPEIC, Multan
(Member)


Dr. Fayyaz Hashmi
 Sr. Medical Officer
 CPEIC, Multan
(Member)


Dr. Farhan Khan
 Director Technical
 CPEIC, Multan
(Member)


Engr. Muhammad Kaleem
 Biomedical Engineer
 CPEIC, Multan
(Member)