

Physiotherapy

EMG Machine

1

No.	Item Specifications
	Technical Specifications
	1) Minimum 4 channel system with optical isolation with Ethernet connection for connecting to either to desktop system or
	laptop system for portable use.
	2)Motor NCV with automatic marking
	3)Sensory NCV with automatic marking
	4)F wave with split screen display with automatic marking of F responses showing the Max F, Min F and % F values.
	5)H reflex & Blink reflex
	6)Repetitive nerve stimulation
	7)Insertional/Spontaneous EMG recording for minimum 600 secs on hard disk or unlimited buffer storage
	8)EMG replay of minimum 600 sec of stored data from hard disk with audio and store in AVI format for review on any
	Windows Media Player PC.
	9)Single Motor unit Analysis.
	10)Sympathetic skin response
	11)Somato sensory evoked potentials (Upper, lower , Dermatomes)
	12)RR Interval program with programs for stand/sit/supine position & Heart rate variability calculations
	13)Auditory evoked potentials: BAER , AEP programs
	14)The software should have facility to measure the Patient Hearing Threshold before running the BERA test.
	15)The software should be capable of Grand averaging of the responses for better signal quality for BERA recordings.
	16)Auditory headphones with clicks, bips and tones
	17)Visual evoked potentials: Pattern reversal VEP
	18)16" VEP monitor for visual evoked potential
	19)Common mode input impedance > 1000Mohm
	20)Low filter to be varied from 0.05 Hz - 500Hz or Higher
	21)High filter to be varied from 30Hz - 5KHz or Higher
	22)Gain to be varied from 0.5 ms/div to 1000 ms/div
	23)Constant current stimulator with current variable from 0 to 100mA with increments of 0.5mA and pulse duration to be
	varied from 50µs - 1000µs with 50µs increments.
	24)Software adjustable notch filter
	25)The electrical stimulator should have controls for stimulus delivery, intensity, store, reverse polarity button and two
	programmable buttons preferred by user
	26)The base unit of the system should provide all the controls for performing the test, switching to other test protocols and
	review of the test with control knobs for sensitivity, gain, marking cursors, pulse width etc.In-built comprehensive nerve/muscle
	directory
	27)Automatic report generation and grammatically frame the sentences and print in the report.
	28)The software should be supplied with Normative data for computation and online comparison with test values
	29)The software to have facility to quickly review the complete summary of the all the acquired traces and tabulate the
	results without need to go in each and every test protocol.
	30)The software should have also facility for Left vs Right comparison in NCV,F,H and Evoked potential tests.
	31)The software should have Live monitor window to view the raw signal of the data before acquiring or storing on the system.

	32)The system should be supplied with branded Pentium Core 2 Duo Processor 2.7 GHz, 512 MB RAM, 120 GB Hard Disk,
	15” flat panel TFT /LCD monitor, DVD Writer, Laser Printer, UPS and CVT, Trolley & Electrode starter kit.
	32)The system should have Quantitative EMG with Multi MUP, Interference pattern with online cloud plot, Single fiber
	EMG with Histograms, Motor unit number estimation, P300, Reflex hammer, Skin temperature probe.
	Environmental factors
	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
	The equipment has a protective earth connection, and must be connected to a wall outlet with protective earth contact.
	Type BF (including Circuplodes)
	Power Supply
	Power input to be 220-240VAC, 50Hz
	UPS of suitable rating with voltage regulation, spike protection and maintenance free batteries for 60 minutes back up.
	Standards, Safety and Training
	Product should be FDA/CE or ISI approved
	Manufacturer should be ISO certified for quality standards
	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements
	Should have local service facility .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.
	Degree of Protection Against Electric Shock Type BF -Should incorporate insulated patient attachment for light source.
	Certification to meeting Biocompatibility as per ISO 10993-1, “Biological evaluation of medical devices- Part 1: Guidance
	on selection of tests”
	Certified to meet the current leakage requirement of IEC 60601-2-18 or equivalent standard for Medical Equipment particular
	Comprehensive warranty for 2 years
	Documentation
	User Manual in English
	Maintenance Manual in English
	Certificate of Calibration and inspection from the factory
	List of important spares and accessories with their part number and costing.
	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist.
	The job descriptin of the hospital technician and company service engineer should be clearly spelt out.
	List of Equipments available for providing calibration and routine maintenance support as per manufacturer
	documentation in service / technical manual

Muscle Stimulator

No.	Item Specifications
	Technical Specifications
	1.1 Electrical muscle stimulation is defined as the use of an electrical current to transfer energy to a wound or to a surface for relieving pain.
	2 Operational Requirements
	2.1 Electrical muscle stimulator to generate electrical pulses to a surface for relieving pain and to restore or improve their function.
	3 System Configuration
	3.1 Electrical Muscle Stimulator complete with electrodes and other accessories.

	4 Technical Specifications
	4.1 Digital output meter.
	4.2 Galvanic, intermittent galvanic, faradic, surge faradic.
	4.3 Pulse duration 0.01, 0.03, 0.1, 0.3, 1, 3, 10, 30, 100, 300m second.
	4.4 Pulse rest time 1-100 pulse/second variable.
	4.5 Visual & audio indicator.
	4.6 Faradic frequency 50 Hz/0.7 msec.
	4.7 Surge duration 1-6 sec. continuously adjustable.
	4.8 Digital Timer.
	5 Accessories, spares and consumables
	5.1 Accessories:
	☐ Two rubber electrodes with leads.
	☐ One Pin electrode with lead.
	5.2 All standard accessories, consumables and parts required to operate the equipment, including all
	standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must
	specify the quantity of every item included in their offer (including items not specified above).
	6 Operating Environment
	6.1 The system offered shall be designed to store and to operate normally under the conditions of the
	purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.
	6.2 Power supply: 220-240V/ 50 Hz AC Single phase fitted with appropriate plug to meet purchaser's
	country requirements. The power cable must be minimum 3 metres long.
	7 Standards and Safety Requirements
	7.1 Must submit ISO13485:2003/AC:2007 for Medical Devices AND
	7.2 CE (93/42 EEC Directives) or USFDA approved product certificate.
	7.3 Shall meet IEC 60601-2-10 Safety requirements - Part 2: Particular requirements for the safety of
	Nerve and Muscle Stimulators.
	8 User Training
	8.1 Must provide user training (including how to use and maintain the equipment).
	9 Warranty
	9.1 Comprehensive warranty for 1 year.
	10 Maintenance Service During Warranty Period
	10.1 During the warranty period supplier must ensure corrective/breakdown maintenance whenever
	required.
	11 Installation, Inspections and Commissioning
	11.1 Supplier must accomplish proper installation & commissioning of the equipment on site.
	12 Documentation
	12.1 User (Operating) manual in English
	S.N. Purchaser's Specifications
	12.2 Service (Technical / Maintenance) manual in English
	12.3 List of important spare parts and accessories with their part numbers and costing.
	12.4 Certificate of calibration and inspection from factory.

Short Wave Therapy

No.	Item Specifications
	Technical Specifications
	Universal shortwave therapy unit for pulsed and continuous shortwave offering treatments by means of inductive electrodes
	(Circuplode) in different diameters for optimal penetration depth and reduction of high-frequency-interference on surrounding
	equipment The unit has to be equipped with a two-way connector for multiple electrode technique.
	Technical specifications:
	Generator frequency : 27.12 MHz, $\pm$ 0.6%
	Output power : continuous HF max. 400 W

	pulsed HF max. 1000 W (peak)
	Pulse duration : ca. 400 µs
	Pulse repetition frequency : 15 - 200 Hz adjustable in 10 steps
	Timer : 0 - 30 min.; with acoustic signal and automatic switch-off
	Measured with 70 ohm standard phantom.
	Length electrode arms : 93 cm
	Environmental factors
	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
	The equipment has a protective earth connection, and must be connected to a wall outlet with protective earth contact.
	Type BF (including Circuplodes)
	Power Supply
	Power input to be 220-240VAC, 50Hz
	Standards, Safety and Training
	Product should be FDA/CE or ISI approved
	Manufacturer should be ISO certified for quality standards
	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements
	Should have local service facility .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.
	Degree of Protection Against Electric Shock Type BF -Should incorporate insulated patient attachment for light source.
	Certification to meeting Biocompatibility as per ISO 10993-1, "Biological evaluation of medical devices- Part 1: Guidance
	on selection of tests"
	Certified to meet the current leakage requirement of IEC 60601-2-18 or equivalent standard for Medical Equipment particular
	7.8 Comprehensive warranty for 2 years
	8 Documentation
	8.1 User Manual in English
	8.2 Maintenance Manual in English
	8.3 Certificate of Calibration and inspection from the factory
	8.4 List of important spares and accessories with their part number and costing.
	8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist.
	The job descriptin of the hospital technician and company service engineer should be clearly spelt out.
	8.6 List of Equipments available for providing calibration and routine maintenance support as per manufacturer
	documentation in service / technical manual

Ultrasonic Therapy

No.	Item Specifications
	Technical Specifications
	1. Ultrasound frequency : 1 & 3 MHZ
	2. Should be microprocessor based
	3. Emission mode : continuous & pulsed mode
	Duty cycle : 0-100% in steps of 10%
	4. Intensity : 0-2W/CM2 in continuous mode
	0-3W/ CM2 in pulsed mode
	5. Timer : 0-30 MIN. It should have real time (meaning timer
	Should stop when there is poor contact with skin)
	6. Treatment Heads : It should have two multi frequency heads (having
	Frequency of both 1 MH2 & 3MHZ) head of size :
	1. Small head size 1cm2 (for small areas) &

	2. Large heads size 4-5 cm ² (for large areas)
	7. Contract control : Acoustic or visual or both
	8. LCD display of intensity, frequency & treatment time.
	9. Should have preset programs for common pathologies & 50 memory spaces to store customized programs.
	System configuration accessories, spares & consumables Should include all standard accessories/cables desired for proper functioning of the machine.

Electrotherapy

No.	Item Specifications
	Technical Specifications
	It should have all low and medium frequency current types as mentioned under:
	Four-pole interferential therapy, Bipol interferential therapy, Medium-frequency interrupted alternating current, Asymmetrical biphasic pulsed current, Rectangular pulsed current, alternating rectangular pulsed current, Monophasic rectangular pulsed current, Monophasic triangular pulsed current, Surge current, Continuous (Galvanic) direct current, Triangular pulsed current (IG30, IG50, IG100, IG150, IG30 alternating, IG50 alternating, IG150 alternating), Medium-frequency interrupted current, MF - Monophasic Fixe, DF-Diphase Fixe, CP- Module en Courtes Periodes, CP-id-Module en Courtes Periodees, Isodynamique, LP – Module en Longues Periodees, Micro Currents, High Voltage Currents, Interrupted Galvanic Current, Faradic Rectangular & Triangular Current.
	☐ It should have two separate channels for (a) Synchronous stimulation of muscle groups.
	☐ It should have more than 60 pre set protocols for treatment indications.
	☐ It should have carrier Frequency of 2K to 10 KHz
	☐ It should have inbuilt Vacuum Unit
	☐ It should have more than 200 memory positions to store the patient data.
	☐ It should have S/D Curve for Diagnosis.
	☐ It should have colour TFT screen to display the parameters.
	☐ It should have two separate channels in different current patterns can be applied on two different channels.
	☐ The systems should be up-gradable through chip card.
	☐ The systems should work on 220-240V/50-60 Hz.
	☐ International Safety Standards like CE/TUV.
	Environmental Factors
	1. Shall meet IEC-606-1-1-2:2001 (or equipment BIS) General requirement of safety for electromagnetic compatibility or should comply with 89/366/EEC/EMCDI
	2. The unit shall be capable of being stored continuously in ambient temperature of 0-50o C and relative humidity of 15-90%.
	3. The unit should be capable of operating continuously in is ambient temperature of 10-40o C and relative humidity of 15-90%
	Power Supply - Power input to be 220-240 VAC, 50HZ & appropriately fitted with Indian plug.
	Standard, Safety & Training
	1. Should be FDA or CE or UL or BIS approved product
	2. Manufacture should have ISO certificate for quality standard.
	3. Comprehensive training for staff.

Magnetic Therapy Unit with Patient Couch

No.	Item Specifications
1	Description of Function
1.1	Micro current with Pulsed Magnetic Field Therapy uses pulsed magnetic field forces and combinations of extremely small electrical frequencies (micro currents) for the treatment of various disorders like various nervous & muscular as well as metabolic disorders.
2	Operational Requirements
2.1	Possible to perform both partial and total-body treatments.
3	System Configuration
3.1	Magnetic therapy unit with couch & all standard accessories.
4	Technical Specifications

4.1	Couch of metal frame with padded top and dimensions of at least 1900mm length, 720mm width and 650mm height.
4.2	Must be of non-magnetized steel.
4.3	Magnetic signal unit must be able to slide under the couch.
4.4	Programmable magnetic signal generation.
4.5	Magnetic Flux density of high-energy 100mT-3x10mT.
4.6	Magnetic signal frequency from 0.1Hz to 40Hz.
4.7	Therapy time from 1-120 minutes.
5	Accessories, spares and consumables
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).
6	Operating Environment
6.1	The system offered shall be designed to store and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.
6.2	Power supply: 220-240V/ 50 Hz AC Single phase fitted with appropriate plug to meet purchaser's country requirements. The power cable must be minimum 3m long.
7	Standards and Safety Requirements
7.1	Must submit ISO 9001 or ISO 13485:2003/AC:2007 AND
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.
7.3	Shall meet IEC-60601-1-2:2001 General Requirements of Safety for Electromagnetic Compatibility.
8	User Training
8.1	Must provide user training (including how to use and maintain the equipment).
9	Warranty
9.1	Comprehensive warranty for 2 years.
10	Maintenance Service During Warranty Period
10.1	During the warranty period supplier must ensure corrective/breakdown maintenance whenever required.
11	Installation and Commissioning
11.1	The bidder must arrange for the equipment to be installed and commissioned by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail.
12	Documentation
12.1	User (Operating) manual in English.
12.2	Service (Technical / Maintenance) manual in English.
12.3	List of important spare parts and accessories with their part numbers and costing.
12.4	Certificate of calibration and inspection from factory.

Microwave Therapy

No.	Item Specifications
	Technical Specifications
	☐ Microwave Diathermy Unit – 2450 MHz Pulse Peak – 1500 W
	☐ Should be able to move under the couch, therapy Time – 0-30 minutes
	☐ Traction Unit - Computerized, programmed and programmable able to provide static, intermittent, pulsating and combination forces in lumbar as well as cervical traction.
	☐ Safety switch
	☐ Maximum lumbar force upto 60 Kg
	☐ Maximum Cervical force upto 20 Kg
	☐ All standard accessories desired for proper functioning of the machine – Cervical Collar, Thoracic & Lumbar Belt, Adjustable Stool.
	Environmental Factors
	☐ The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 15-90%.
	☐ Shall meet IEC - 60601 – 1-1-2: 2001 (Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.

	☐ The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%
	Power Supply
	☐ UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.
	☐ Power input to be 220-240 V AC, 50 Hz fitted with Indian plug
	Standards, Safety and Training
	☐ Should be FDA, CE, UL or BIS approved product.
	☐ Manufactures should have ISO certification for qualify standards.
	☐ Comprehensive training for lab staff and support services till familiarity with the systems on site



Ultraviolet Therapy

No.	Item Specifications
	Technical Specifications
	☐ It must have floor stand model for ultraviolet radiation treatments
	☐ It must have UV bulb of 300w is fitted in metal casing with automatic cut off timer of 15 minutes
	☐ It must have adjustable arm permits wide range of adjustments
	☐ It must be mounted on heavy duty base fitted with ball bearing casters
	☐ It must be comes with suitable power cord