TECHNICAL SPECIFICATIONS OF RADIO FREQUENCY ABLATION SYSTEM-PAIN PROCEDURES/HIGH FREQUENCY ABLATION UNIT

S. No.	Description of Specifications: R. F. Machine	
1.	The Equipment should be useful for standard RF ablation & Cooled RF ablation	
2.	**Indications:** Cervical pain, Thoracic pain, facet pain, Lumber Spine pain, Sacro-iliac Joint pain, Discogenic pain, Hip Joint pain, Knee pain, Trigeminal neuralgia.	
3.	RF generator must support Bipolar RF for Biacuplasty procedure	
4.	The RF machine must have separate quad cool pump assembly to treat cooled RF related muscle / nerve origin chronic pain pathology.	
5.	RF must have water cooled probe.	
6.	**The equipment should have following features in a single unit** a) Standard RF b) Pulsed mode c) Cooled RF d) Bipolar Mode	
7.	The system should have customizable treatment profiles for quick access. Minimum 15 treatment profiles can be added and deleted as per user convenience.	
8.	The system should be able to record clinical logs for the past therapies. Minimum 120 procedure logs should be supported.	
9.	The system should support individual probe control before and during treatment. Start and Stop function for individual probe with respect to temperature and time.	
10.	The system should automatically extend procedure time if Set Temp does not reach allotted ramp time.	
11.	The system should view display Ramp Time, time at Set Temp, and total procedure time in graph form.	
12.	The system should have demo mode for Cooled, Standard, Bipolar, Transdiscal, Pulsed and Stimulation mode for users to review.	
13.	The system should be able to test pump unit, upgrade software and enable live output.	
14.	The system should display warning with numeric code and actionable error message.	
15.	**Screen Display** • The equipment should have LCD color touchscreen. • Should display graphical interface in Real-time, display impendence, temperature, time and voltage independently. • The equipment should have the feature of independent Probe control for better performance & save procedural time.	
16.	**RF energy** • For Standard RF • For Bipolar RF • For pulse RF • For Cooled RF	**Standard Temperature & Time duration:** • Temperature display 80-degree C and time 90seconds • Temperature display 40-degree C and time 15 minute • Temperature display 42-degree C and time 90 seconds • Temperature display 60-degree C and time 2:30 minutes
17.	**On insertion of RF Cable**, the equipment should recognize the • Standard RF probes • Bipolar probes for discogenic Pain • Cooled RF Should have automatic mode to recognize various cables for minimal manual operation.	

18.	**Impedance measurement, Stimulation, RF output:** • The impedance measurement should be in the range of 1- 3000 ohms • Impedance can be measured in before and during lesion in "Lesion mode", before "stimulation mode" and during cooled RF in Auto temperature mode. • Stimulation voltage mode: 0.00-10 V, 0.01 V increment • Current mode: 0.00-10 mA, 0.01 mA increment. • Stimulation rate: 1-Shot, 2, 5, 10, 20, 50, 75, 100, 150, 180 and 200 Hz • Stimulation pulse duration: 0.1, 0.2, 0.5 and 1.0 MS • RF energy: 460 KH • Maximum Power: 80W	
19.	**Software Shutdown Limits During RF Delivery or Stimulation (Safety features):** • Measured Impedance: < 25 Ω or > 3,000 Ω • Measured Temperature: < 15°C, > 100°C	
20.	**Scope of Supply**: a) R. F. Machine (Advanced Cooled Upgradable Generator) b) Connecter cable for Trans-discal Biacuplasty procedure c) 4 Channel Standard RF d) 4 Channel Cooled RF e) Peristaltic Quad Pump to perform multi–Cooled RF. This needs to be operated in conjunction to the RF generator.	 1no 1no 1no 1no 1no
21.	**The equipment is to be supplied with consumables:**	
	• RF split grounding Pad	100 no
	• Standard RF flexible probe 100mm length, Reusable	1no
	• Standard RF flexible probe 145mm length, Reusable	1no
	• Standard RF flexible probe 55 mm length, Reusable	1No
	• Standard RF Cannula supporting 100mm length, 5 mm active tip for Trigeminal Neuralgia	20 no
	• Standard RF Cannula supporting 100mm length, 10 mm active tip	20 no
	• Standard RF Cannula supporting 100mm length, 5 mm active tip	20 no
	• Standard RF Cannula supporting 145 mm length, 5 mm active tip	20 no
	• Standard RF Cannula supporting 145 mm length,10 mm active tip	10no
	• **Knee Procedure** Cooled RF kit - 75mm probe length, with 4mm active tip	20no
	• **Lumbar Facet Procedure** Cooled RF kit – 100 mm probe length, with 4mm active tip	20 no
	• **Sacro Iliac & Hip Joint** Cooled RF kit - 150 mm probe length, with 4mm active tip	20 no
	• **Shoulder Joint procedure** Cooled RF kit - mm75 probe length, with 2mm active tip	20 no
	• Cooled Disc Biacuplasty kit for **Disc procedure** TDK2-17-150-6 MM Active tip	20 no
22.	**Others:** • Model should be latest. Older machines/model & refurbished machines will not be considered. • Comprehensive warranty for 5 years for the complete system. • Quote Comprehensive maintenance contract [CAMC] for complete system for additional 5 years after expiry of warranty of 5 years. • Breakdown complaint must be attended within 24 hours. • All steps to be taken to maintain 95% uptake time of the equipment failing which penalty clause would be imposed and warranty will extend 3 times of the downtime. • Confirmation of availability of recommended spares for the maintenance. • The system should have BIS/CDSCO/US FDA/European CE certification.	

	• Parent company should provide undertaking of suppling the consumables for 10 years from the date of Installation of machine. • Parent Company/OEM should provide technical training support to the user department. • During initial period & after training, the company should provide authorized person to assist the staff of dept. in using the machine for the RF procedures/ cases as & when required. • Service engineer available with each & every authorize distributor end.