19. Technical Specifications SF6 Gas Handling Plant

Sr No	Description	Specification
1.	**Functional Requirement**	Equipment shall be able to evacuate, filter and fill the sf6 gas in breakers, from CB pole to cylinder and vice versa etc . SF6 recovery shall be more than 99.5% It shall also filter and dry sf6 during the process to achieve the desired properties. The unit shall be portable mounted on a cart with min. 12" size pneumatic wheels so that it can freely move on metal spread switchyard.
2.	**Assembly parts**	The equipment shall be inbuilt with following components operating on 240 V 50 Hz power supply. 1. Vacuum pump of capacity up-to 40m³/h shall be able to create vacuum less than 1mbar. 2. High pressure direct drive oil less compressor of capacity more than 5.5 m³/h to built up pressure up-to 50 bar. 3. Vacuum Compressor of capacity more than 5 m³/h which shall create vacuum less than 50 mbar. The mimic diagram shall be provided showing the circuits of Gas flow. The unit shall also have vacuum and pressure gauges, particle and dry filters, Three way valves., anti suck back valve,SF6 bottle balance, set of tools, working hour counter, Dew point measuring instrument and hoses of minimum 6 Mtr. length with couplings for connecting to SF6 gas cylinder and to equipment (Make of Breaker for which coupling is required will be specified in the PO) etc. The vacuum and pressure gauges shall have the resolution to measure the minimum vacuum (1mbar) and maximum pressure (50 bar). The equipment shall have on board cylinder having storage capacity of minimum 300 ltr/280 KG.
4.	**Dew Point Measuring Instrument**	The dew point measuring instrument shall consist of the following: • Measuring Sensor: Range +30°C to (-) 60°C • Input Pressure: 50bar • Operating Temp. 0-50°C Panel Mounted Indicator
5.	**Maintenance Tool Kit**	A Tool kit comprising of all tools required for Operation and Maintenance of the plant shall be supplied along with the plant.

6.	**Power Supply**	The machine shall operate with I/P supply : 3-Phase, 415V, 50Hz AC or 1-Phase, 240V, 50Hz AC The unit shall be equipped with a Phase Sequence relay for ensuring the correct sequence of rotation of the compressor / Vacuum Pump.
7.	**Filtration Capacity**	Filtration up to 1 microns or less during recovery and filling.
8.	**Minimum Evacuation Pressure**	Less than 50 mbar and final vacuum less than 1 mbar for a circuit breaker pole having storage capacity of 30 Kg at pressure 8 bar.and Current transformer pole having capacity of 130 Kg at pressure 6bar
9.	**Maximum Filling Pressure**	50 Bar and above.
10.	**Operating Voltage**	230±10% ,50 Hz
11.	**Guarantee**	12 months
12.	**Commissioning, Training and Handing Over of the Instrument**	Successful Bidder will have to commission the instrument to the satisfaction of Powergrid. The instrument failed during the demo shall be rejected and no repairs are allowed. Bidder will have to provide training to Powergrid engineers for safe operation and maintenance of the instrument before handing over the instrument. Instruction and operation manuals should be supplied along with the instrument.
13.	**Packing and transport cases**	The kit and accessories shall be robust and rugged enough, so that it can be transported safely at different locations .The transportation case and packing of the kit shall be such that the transportation from one station to other will not affect the performance and accuracy of measurement of kit.
14.	**Services after Sale**	Bidder will have to submit the documentary evidences of having established mechanism for prompt services as and when required by Powergrid. Bidder need to submit their organisation service chart along with bid