

		Minimum discharge capability	12kJ/kV or corresponding to minimum discharge characteristics given in clause m) below whichever is higher.
		Continuous operating voltage at 50 deg C	267 kV rms
		Min. Switching Surge Residual Volt 2 kA	670 kVp
		Max. Switching Surge	650 kVp
		Maximum residual voltage at i) 10kA nominal discharge current ii) 20kA nominal discharge current	800 kVp 850 kVp
		Steep fronted wave residual volt at 10kA	925 kVp
		High current short duration test value (4/10 microsec. wave)	100 kAp
		One minute dry/wet power frequency withstand voltage of arrester housing	630 kV (rms)
		Impulse withstand voltage of arrester Housing with 1.2/50 micro sec. wave.	1425 kVp
		RIV at 266 kV (rms)	Less than 1000 micro volts
		Long duration discharge class	4
9	Motor	<ol style="list-style-type: none"> 1. Motors shall be selected to have rating in accordance with the preferred rated output values of the primary series as listed in IEC 60072 and IS 325. The enclosure of motors and motor control station shall be in accordance with the hazardous area classification and equipment selection in hazardous area as per IEC 60079 and its parts. 2. All motors shall be IE3 energy efficiency class according to IEC 60034-30-1; 2014. 3. All motors shall be either totally enclosed fan cooled (TEFC) or totally enclosed tube ventilated (TETV) or Closed air circuit air cooled (CACA) type. 4. Winding & insulation of motor shall be non-hygroscopic, oil resistant, flame resistant. 5. Starting duty of motor is two hot starts in succession, with motor initially at normal running temperature. 6. For 11kV & 3.3kV motor thermal class 155 (F) insulation. The winding insulation process shall be total Vacuum Pressure 	

		<p>Impregnated i.e., resin poor method. The lightning Impulse & interturn insulation surge withstand level shall be as per IEC-60034 part-15.</p> <ol style="list-style-type: none"> 7. For 415V, 240V AC & 220V DC Thermal Class (B) or better. 8. Paint shade shall be as per RAL 5012 (Blue) for indoor and outdoor equipment. 9. Degree of protection for various enclosures as per IEC60034-05 shall be as follows Indoor: IP 54 & Outdoor: IP 55. 10. For air cooled motors 70 deg. C by resistance method for both thermal class 130(B) & 155(F) insulation. 11. Motors with heat exchangers shall have dial type thermometer with adjustable alarm contacts to indicate inlet and outlet primary air temperature. 12. Noise level for all the motors shall be limited to 85dB (A) except for BFP motor for which the maximum limit shall be 90 dB(A). Vibration shall be limited within the limits prescribed in IS/IEC 60034-14. 13. Motor body shall have two earthing points on opposite sides. 14. 11 KV motors shall be offered with Separable Insulated Connector (SIC) as per IEEE 386. The offered SIC terminations shall be provided with protective cover and trifurcating sleeves. SIC termination kit shall be suitable for fault level of 25 KA for 0.17 seconds. 15. 3.3 KV motors shall be offered with dust tight phase separated double walled (metallic as well as insulated barrier) Terminal box. Suitable termination kit shall be provided for the offered Terminal box. The offered Terminal Box shall be suitable for fault level of 250 MVA for 0.12 sec. Removable gland plates of thickness 3 mm (hot/cold rolled sheet steel) or 4 mm (non-magnetic material for single core cables) shall be provided. 16. The size and number of cables (for HT and LT motors) to be intimated to the successful bidder during detailed engineering and the contractor shall provide terminal box suitable for the same. 17. CW motor shall be designed with minimum power factor of 0.8 at design duty point. 18. MOV's and Electrical cranes shall be fully equipped with integral motor control gear. 19. All the equipment, material and systems shall, in general, conform to the latest edition of relevant National and international Codes & Standards, especially the Indian Statutory Regulations. 20. Suitable single phase space heaters shall be provided on motors rated 30KW and above to maintain windings in dry condition when motor is standstill. Separate terminal box for space heaters & RTDs shall be provided. However, for flame proof motors, space heater terminals inside the main terminal box may be acceptable.
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