TECHNICAL REQUIREMENTS FOR SMOKE EXTRACTION FANS

1. Functional Requirement. The Fans are used for following purpose on-board ship: -

(a) Removal of smoke from compartment after fire.
(b) Supply of Fresh air to machinery compartments and hangar for ventilation purpose.
(c) Removal of exhaust air from machinery compartments, stores, battery rooms, sanitary compartments, galleys & pantries.
(d) The fans are to be with flame proof gauges.

2. Technical Requirements.

(a) The smoke clearance fans are to have a minimum capacity of 4000 m3/Hr at 150 mm of WG and are to be operable from local or remote.

(b) The smoke clearance fans are to be hot gas fans as per BS 848. They are to be reversible, capable of withstanding temperatures of 400°C for 1 hour.
(c) The fans shall be Axial Fans.
(d) The fans shall be electrically driven.
(e) The motors should be marine type suitable for 380 V, 3 PH, 3 Wire, 50 Hz. Electric motors are to confirm as per EED-Q-071 Rev 4. Motors shall have class F Insulation & shall be fully enclosed construction, Water tight to pressure of 0.1 Bar & should be rated for continuous operation.
(f) The shaft metal of the motor shall be steel as per EN 57 or AISI 431.
(g) The Fan & Motor as assembly should be shockproof to NSS II.
(h) Impeller material should be sea water resistance.
(i) The Fan shall operate in a satisfactory manner over its entire operating range, without exceeding the noise and vibration levels. Fan should not have sound level exceeding 75 db (A). Under free field condition 1 metre distance with ducted inlet & outlet.

3. Construction.

(a) The Fan & its components including cabling will be arranged and installed to permit ready accessibility for operation, inspection and maintenance.
(b) The covers are to be provided with an inspection door on the service side.
(c) The fans are to be fully balanced & supported in enclosed ball bearings.
(d) Direct on line shockproof starters of approved type& make (Naval Version) are to be supplied. The starters will incorporate single phasing protection in addition to over load & under load voltage protection.
(e) The cabling inside the Fan & Control panel shall be patronised LFH cables.

4. Control & Monitoring. Indication of fan running status is to be provided on the control panel and the control panel will provide digital outputs for remote monitoring and control.