Corrosion protection of nozzle

Before delivery an anti-rust bitumen product is applied to the inside of the nozzle. On the outside the nozzle is treated with a priming coat. Additional rust protection is not necessary inside, unless welding has been carried out on the plating of the nozzle.

On the outside, the nozzle must be painted and fitted with zinc anodes. The protection of the nozzle is important, because the propeller drives a strong flow of water through the nozzle built of two different materials. Stainless steel plate in the propeller zone and ordinary steel plate on both sides.

The quantity of zinc required per year to protect the nozzle is about 1.1 kg per m^2 of nozzle surface. For a fixed nozzle this corresponds to approx 3.5 D^2 kg zinc per year and approx twice as much for a steering nozzle, where D is the propeller diameter in metres.

The location of the zinc anodes are shown on below sketch. The zinc anodes should be evenly distributed on the circumference of the nozzle. The outside zinc anodes should be fitted close to the foremost edge of the nozzle and the inside zinc anodes quite close to the stainless steel belt behind the propeller to obtain the best possible flow in the zone between the stainless steel belt and the ordinary steel plate. However, satisfactory clearance to the propeller should be ensured. As for the rudder nozzle, the rudder fin is protected by some smaller anodes. To facilitate flow the anodes should be placed near the aft edge of the rudder fin.

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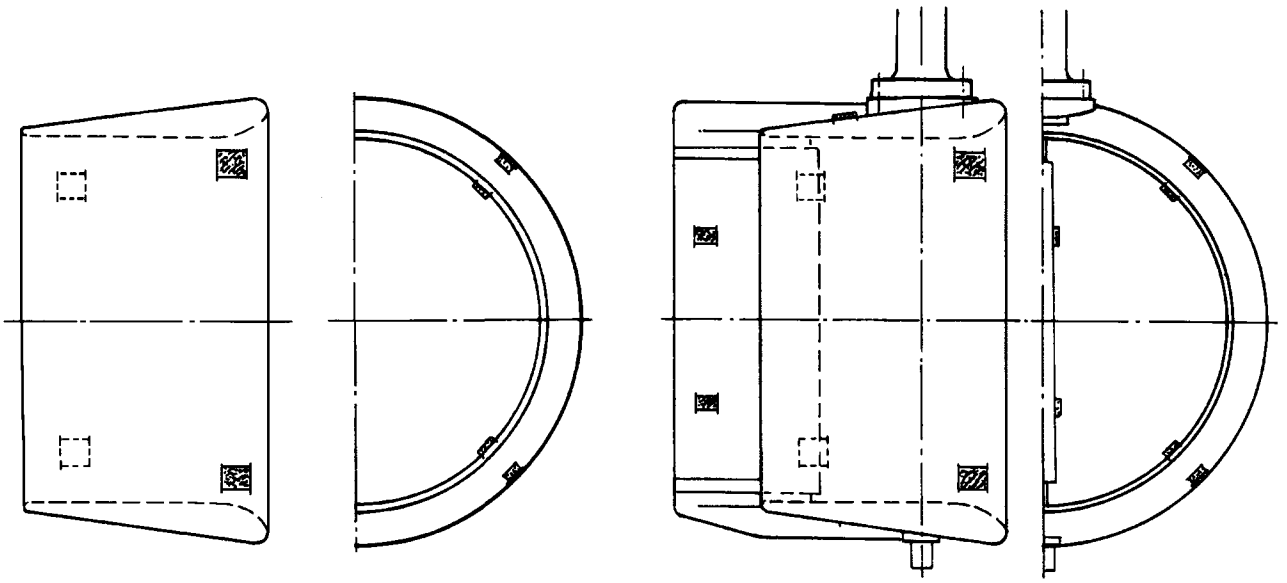
Fig 40.3



Fixed nozzle ***Steering nozzle***