

*Indian Standard*

**GUIDELINES FOR  
DESIGN OF FLOAT DRIVEN HOISTING  
MECHANISM FOR AUTOMATIC GATED  
CONTROL**

**1. SCOPE**

**1.1** This standard lays down guidelines for design of a float-driven hoisting mechanism for automatic gated-control.

**1.2** This standard includes only typical arrangements commonly used, since possible arrangements are numerous due to a variety of types of gates, hoisting-mechanisms, float-drives and automatic flow-control devices ( sensors ). This may be used to admit water to or drain water from the, float-well in response to deviation of the controlled-variable from its predetermined-limits. Design guidelines are therefore limited accordingly ( see Fig. 1 to 11 ).

**1.3** This standard includes typical arrangements to keep water-level constant in a hydro-electric and other locations channel at the upstream or downstream side of the gate.

**1.4** This standard includes typical arrangement for emergency closure of a power channel feeding a hydro-electric power-house, to prevent damage to the hydraulic turbine and generators by run-away speed conditions when sudden load-tripping takes place at the power house.

**1.5** This standard does not include the structural design of the gate, the hoisting-mechanism and the other components, for which relevant Indian Standards may be referred to. However, outlines of the structural arrangements of certain components, where considered necessary in the interest of functional reliability, are included.