



IS 10805 : 2022 - Foot-Valves, Reflux Valves (Non-Return Valves)

The IS 10805:2022 standard defines the requirements for Foot-Valves, Reflux Valves (Non-Return Valves), and Bore Valves used in agricultural pumping systems. These valves are crucial in maintaining unidirectional water flow and preventing backflow in suction lines of centrifugal pumps. Foot valves are positioned at the bottom of the suction line, often with a strainer to block debris. Reflux valves are installed at the top or along the suction line to stop water from reversing, while bore valves are designed for borewells or tubewells, sometimes incorporating a strainer. The standard ensures that these valves are manufactured with appropriate materials, dimensions, and performance criteria to enhance agricultural irrigation efficiency.

Consumers expect these valves to be durable, efficient, and leak-proof, with minimal friction loss to ensure optimal water flow. The material should be corrosion-resistant (cast iron, mild steel, or reinforced plastics), and the valves must be properly coated with black japan or bituminous paint. They should meet specific dimensional standards to ensure seamless fitting in suction lines, offer easy maintenance, and withstand hydrostatic pressure without distortion or leakage. The standard addresses these expectations through rigorous performance testing, including friction loss limits (K-values), seat leakage tests (0.02 MPa for 2 minutes), and housing pressure tests (0.5 MPa for 2 minutes). Additionally, the standard prescribes flow rate testing to ensure that the valves allow the appropriate discharge within specified limits.

To maintain product quality and reliability, marking and certification requirements under the Bureau of Indian Standards (BIS) Act ensure compliance. Manufacturers must follow the prescribed material specifications, including cast iron (IS 210), mild steel (IS 5986), and synthetic rubber, to enhance longevity. The dimensions and flange connections are standardized to ensure interchangeability. These measures collectively guarantee that consumers receive high-quality, durable, and efficient valves, improving the overall performance of agricultural pumping systems. By enforcing strict quality parameters and testing procedures, IS 10805:2022 ensures that agricultural users benefit from long-lasting, reliable, and efficient pumping components.