



IS 18286 : 2023 Agricultural Irrigation Equipment — Manually Operated Serviceable Plastics Valves — Specification

Valves play a critical role in **fluid handling** applications by controlling the flow — whether starting, **stopping**, **regulating**, or **throttling the flow**. They are also essential for **preventing backflow** and for relieving or **regulating pressure** within a system. Proper anchoring of all types of valves is crucial to minimize the torque exerted on pipes during operation, ensuring stability, safety, and prolonged equipment life.

Manually operated serviceable plastic valves are **lightweight**, **corrosion-resistant**, and ideal for low-pressure fluid applications. Their design allows for easy operation by hand and simplifies maintenance, as they can be **readily disassembled** and **serviced as needed**. These valves are suitable for various applications, including **irrigation**, water treatment, and chemical processing, where durability and ease of use are key.

The Indian Standard IS 18286 : 2023 specifies the requirements and test methods for manually operated serviceable plastics valves intended for operation in agricultural irrigation systems. The standard applies to valves of nominal diameter from 1/4" to 4" including **angle**, **globe**, **diaphragm** and **ball valves** indented to operate at water temperatures from 5 °C to 60 °C.

Key specifications for valves encompass **material** and **connection requirements**, ensuring durability and compatibility with various applications. Valves are available in a range of construction materials, including **PVC (Polyvinyl Chloride)**, **PE (Polyethylene)**, and **PP (Polypropylene)**, to meet diverse operational needs. Connection options, such as **flanges**, **sockets**, and **end connections**, provide flexibility for system integration. Valves are categorized into four classes based on working pressure and further classified into three construction types—**Double Union**, **Single Union**, and **Single Piece**—each designed to suit specific maintenance and operational requirements

For evaluating the performance of valves, various test have been provided in the standard which includes, operating **torque test**, **pressure loss test**, **resistance of valve and valve material to internal hydrostatic pressure**, **seat** and **stem sealing test**, valve performance at increased hydraulic pressure and endurance testing.