

PRODUCT DATA

Sharpe® Ball Valves for Vacuum Service: “-U”

Sharpe® High Performance Series 80/89/70/74 ball valves can be supplied for vacuum service when built and used in accordance to this document. Orders and inquiries for vacuum service valves must include all service conditions and applicable vacuum level(s) to ensure the correct product configurations are supplied or offered.

A number of different methods exist for expressing the level of vacuum in a service application. This can confuse the application. Vacuum is classified by the American Vacuum Society as follows:

Atmospheric Pressure:	760 mm Hg (absolute) or 0 inches Hg (vacuum) or 14.7 PSI (absolute)
Low Vacuum:	From “Atmospheric Pressure” to 25 mm Hg (absolute) or 28.95 inches Hg (vacuum) or 0.484 PSI (absolute)
Medium Vacuum:	From “Low Vacuum” to 0.001 mm Hg (absolute) or 1×10^{-3} Torr or 1 micron
High Vacuum:	From “Medium Vacuum” to 1×10^{-6} mm Hg (absolute) or 1×10^{-6} Torr or 1×10^{-3} micron

Ball Valve Limitations for Vacuum Service:

1. Standard Sharpe® Series 80/89/70/74, assembled with standard components requiring no modifications, can be used in industrial vacuum service under favorable conditions. The valves, when built and used in accordance to this document, can be used through part of the Medium Vacuum range to 0.020 mm Hg (2×10^{-2} Torr or 20 microns). These valves are **not** recommended for and **cannot** be supplied for use in the High Vacuum range.
2. Only Sharpe® Series 80/89/70/74 valves with virgin PTFE or TFM® seats and seals are recommended for vacuum service. Satisfactory performance **cannot** be assured with RTFE, Nova, or other alternative seats and seals.
3. “Favorable conditions” are clean service applications which do not include transport of solids or abrasives by vacuum, and which are within the normal operating temperature range of PTFE seats and seals. Valves operating at high cycle rates should be expected to require more frequent maintenance to ensure proper performance.