Seat Leakage Classifications (In Accordance with ANSI B16.104-1976)

LEAKAGE CLASS DESIGNATION	MAXIMUM LEAKAGE ALLOWABLE	TEST MEDIUM	TEST PRESSURE	TESTING PROCEDURES REQUIRED FOR ESTABLISHING RATING
I	- - -	- - -	- - -	No test required provided user and supplier so agree.
II	0.5% of rated capacity	Air or water at 50 to 125°F (10 to 52°C)	45 to 60 psi (3,1 to 4,1 bar) or maximum operating differential, whichever is lower	Pressure applied to valve inlet, with outlet open to atmosphere or connected to a low head loss measuring device, full normal closing thrust provided by actuator.
III	0.1% of rated capacity	As above	As above	As above
IV	0.01% of rated capacity	As above	As above	As above
V	0.0005 ml per minute of water per inch (mm) of port diameter per psi (bar) differential	Water at 50 to 125°F (10 to 52°C)	Maximum service pressure drop across valve plug, not to exceed ANSI body rating. (100 psi (6,9 bar) pressure drop minimum)	Pressure applied to valve inlet after filling entire body cavity and connected piping with water and stroking valve plug closed. Use net specified maximum actuator thrust, but no more, even if available during test. Allow time for leakage flow to stabilizer.
VI	Not to exceed amounts shown in following table based on port (orifice) diameter	Air or Nitrogen at 50 to 125°F (10 to 52°C)	50 psig (3,4 bar) or maximum rated differential pressure across valve plug, whichever is lower.	Actuator should be adjusted to operating conditions specified with full normal closing thrust applied to valve plug seat. Allow time for leakage flow to stabilize and use suitable measuring device.