

Product Quality Grade For Spring-loaded Direct Acting Safety Valve

Inspect Item				Product Quality Level			
				Qualified Product	First-Class Product	Superior Product	
Shell Hydraulic Test	Test Medium			Water			
	Test Pressure(MPa)	Designed and Manufactured Refer to Standard GB/T 12241		The test pressure value at the inlet is 1.5 times the design pressure at the inlet, and the test pressure value at the outlet is 1.5 times the maximum back pressure at the outlet.			
		Designed and Manufactured Refer to Standard NB/T 47063		The test pressure value at the inlet is 1.5 times the design pressure at the inlet, and the test pressure value at the outlet is 1.5 times the maximum allowable working pressure at a temperature of 38°C for the pressure rating of the outlet flange.			
	Duration (where 't' is the time specified for the duration test in GB/T 12241 or NB/T 47063)			≥ t	≥ 2t	≥ 3t	
	Acceptance Criteria			No visible leakage and structural			
Performance Test	Performance Test Medium		Steam Valve	Saturated Steam			
			Gas Valve	Air or Nitrogen			
			Liquid Valve	Water			
	Set Pressure and Deviation	Set Pressure Ps (MPa)		Set Pressure as Specified in the			
		Set Pressure Deviation	Safety Valve for Pressure Vessels and Pipelines	Ps≤0.5	±0.015		
				Ps>0.5	±3%Ps	±2.7%Ps	±2.4%Ps
		Safety Valve for Steam Boilers	Ps≤0.5	±0.015			
			0.5<Ps≤2.3	±3%Ps	±2.7%Ps	±2.4%Ps	
			2.3<Ps≤7.0	±0.07	±0.063	±0.056	
	Excess Pressure	Safety Valve for Steam	Safety Valve for Boilers	3%	2%	1%	
			Safety Valve for Other	3%			
		Safety Valve for Gas	10%				
	Opening and Closing Differential Pressure (MPa)	Safety Valve for Liquid		20%	12%	10%	
		Safety Valve for Steam Power Boilers		≤7%Ps	≤6%Ps	≤4%Ps	
		Safety Valve for Once-through Boilers, Reheaters, and Other Steam Equipment	Ps≤0.4	≤0.04			
			Ps>0.4	≤10%Ps	≤8%Ps	≤6%Ps	
		Safety Valve for Gas	Ps≤0.2	≤0.03			
			Ps>0.2	≤15%Ps	≤10%Ps	≤7%Ps	
	Safety Valve for Liquid	Ps≤0.3	≤0.06				
		Ps>0.3	≤20%Ps	≤17%Ps	≤15%Ps		
Lift Height			Must meet the requirements of GB/T 12243 and the manufacturer's specifications.				
Mechanical Characteristics			The safety valve operation must be stable, with no fluttering, chattering, sticking, or harmful vibrations.				
Number of Continuous Repetitions			3				