

ISO 21013-1:2021-12 (E)

Cryogenic vessels - Pressure-relief accessories for cryogenic service - Part 1: Reclosable pressure-relief valves

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Requirements	3
4.1	General	3
4.2	Design	3
4.2.1	Design temperature	3
4.2.2	Drainage	3
4.2.3	Stem guiding	3
4.2.4	Inserts	3
4.2.5	Sublimating fluids service	3
4.2.6	Electric continuity	3
4.2.7	Set pressure	4
4.2.8	Minimum shell thickness	4
4.3	Materials	4
4.3.1	General	4
4.3.2	Metallic materials	4
4.3.3	Non-metallic materials	4
4.3.4	Corrosion resistance	5
4.3.5	Gas material compatibility	5
4.3.6	Acetylene compatibility	5
5	Qualification and testing	5
5.1	Type approval	5
5.1.1	Verification of the design	5
5.1.2	Model number	5
5.2	Type approval tests	5
5.2.1	Ambient condition tests	5
5.2.2	Cryogenic tests	6
5.2.3	Alternate cryogenic tests	8
5.3	Production testing	9
6	Determination of the certified coefficient of discharge (K_{dr})	9
7	Set pressure tolerances	9
8	Re-seating pressure	9
9	Cleanliness	9
10	Marking	9
10.1	Marking on the body of the pressure-relief valve	9
10.2	Marking on an identification plate	10
11	Sealing	10
Bibliography		11