

ISO 18139:2017-02 (E)

Ships and marine technology - Globe valves for use in low temperature applications - Design and testing requirements

Contents		Page
Foreword		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Pressure temperature rating	3
4.1	Types of fluid	3
4.2	Working pressure and design temperature	3
5	Structure	3
5.1	General structure of a globe valve	3
5.2	Body type and material	3
5.2.1	Type	3
5.2.2	Materials	4
5.2.3	Manufacturing	4
5.3	Types and materials of extended bonnet	5
5.3.1	Design	5
5.3.2	Materials	5
5.4	Plug types and materials	5
5.4.1	Design	5
5.4.2	Materials	5
5.5	Stem types and materials	6
5.5.1	Design	6
5.5.2	Materials	6
5.6	Stem sealing	6
5.7	Seat ring types and materials	6
5.7.1	Design	6
5.7.2	Materials	6
5.8	Bolts and nuts types and materials	6
5.8.1	Design	6
5.8.2	Materials	7
5.9	Driving system and operating device requirements	7
5.9.1	Driving system of the valve	7
5.9.2	Manual operation of the valve	7
5.9.3	Materials for operating devices	7
5.9.4	Explosion proof class	7
5.9.5	Checking open degree	7
5.9.6	Auto-operating devices	7
5.9.7	Sealing class for gear boxes	8
5.9.8	Installation direction of operating devices	8
5.9.9	Direction of open and closed	8
5.9.10	Special requirement	8
5.10	Surface treatment	8
5.11	Welding and heat treatment	8
5.11.1	Welding	8
5.11.2	Heat treatment	8
6	Test and inspection	8

6.1	Material test	8
6.2	Non-destructive inspection	8
6.2.1	Radiographic testing (RT)	9
6.2.2	Penetrant testing (PT)	9
6.2.3	Ultrasonic testing (UT)	10
6.2.4	Retest	10
6.2.5	Submission of inspection results	10
6.3	Dimension check	10
6.4	Visual inspection	10
6.5	Heat treatment inspection	10
6.6	Operating tests	10
6.7	Pressure tests, back seat tests and leak tests	10
6.7.1	Pressure tests	11
6.7.2	Back seat tests	11
6.8	Fire safety test	11
6.9	Cryogenic test	11
6.9.1	Scope of tests	11
6.9.2	Test procedure	12
6.9.3	Submission of test result	13
6.9.4	Marking	13
	Annex A (informative) Cryogenic globe valve	14
	Bibliography	17