

# ISO 20602:2019 (E)

## Ships and marine technology — Check valves for use in low temperature applications — Design and testing requirements

---

### Contents

	Foreword
1	Scope
2	Normative references
3	Terms and definitions
4	Pressure temperature rating
4.1	Types of fluids
4.2	Working pressure and designed temperature
5	Design
5.1	General structure of a check valve
5.2	Materials — General
5.3	Body
5.3.1	Materials
5.3.2	Manufacturing
5.4	Cover (bonnet)
5.4.1	Types
5.4.2	Materials
5.5	Disc
5.5.1	Types
5.5.2	Materials
5.6	Gasket
5.7	Valve Seat
5.7.1	Types
5.7.2	Materials
5.8	Hinges and hinge pin (as applicable)
5.8.1	Types
5.8.2	Materials
5.9	Bolts and nuts
5.9.1	Types
5.9.2	Materials
6	Surface treatment
7	Welding and heat treatment
7.1	Welding
7.2	Heat treatment
8	Test and inspection
8.1	Material test
8.2	Non-destructive inspection
8.2.1	Radiographic testing (RT)
8.2.2	Penetrant testing (PT)
8.2.3	Ultrasonic testing (UT)
8.2.4	Retest
8.2.5	Reporting test result
8.3	Dimension check
8.4	Visual inspection
8.5	Heat treatment inspection
8.6	Pressure tests

- 8.7 Fire safety test
- 8.8 Cryogenic tests
  - 8.8.1 Test scope
  - 8.8.2 Test procedure
    - 8.8.2.1 Initial proving test
    - 8.8.2.2 Cryogenic performance tests
      - 8.8.2.2.1 Preparing tests
      - 8.8.2.2.2 Test types and methods
    - 8.8.2.3 Returning ambient temperature test
    - 8.8.2.4 Leakage test in ambient temperature
    - 8.8.2.5 Disassembly test
    - 8.8.2.6 Final leakage test
  - 8.8.3 Submission of test result

**9 Marking**

**Annex A (informative) Cryogenic check valves — Examples**

Page count: 14