ISO 18581:2026-01 (E)

Compressed natural gas (CNG) and liquefied natural gas (LNG) equipment and accessories - CNG and LNG propulsion systems for small craft - Installation requirements

Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **2**

4 Components **7**
4.1 General provisions 7
4.2 CNG cylinders and LNG containers 8
4.2.1 General provisions 8
4.2.2 Cylinders 8
4.2.3 Fixed container 8
4.2.4 Components fitted to the cylinder or fixed container 8
4.3 Fuel system components 9
4.3.1 Vaporiser 9
4.3.2 Other components 9

5 Installation requirements **10**
5.1 General requirements 10
5.2 Installer of the CNG or LNG system 11
5.3 Additional CNG or LNG systems not connected to the propulsion system 11
5.4 Modifications to the structure of the craft 11
5.5 Container or cylinder installation 12
5.5.1 General 12
5.5.2 Fixed containers/cylinders 12
5.5.3 Cylinders and containers 13
5.5.4 Cylinders/containers lockers 13
5.6 Components fitted to the fixed container/cylinder 14
5.6.1 General requirement 14
5.6.2 Remote-controlled service valve and excess flow valve on the container 14
5.6.3 Pressure relief valve (PRV) 14
5.6.4 Refuelling nozzle 14
5.6.5 Level indicator 14
5.6.6 Fittings 15
5.6.7 Pressure relief device (PRD) 15
5.7 Gas pipes and hoses 15
5.8 Other components 16
5.8.1 Gas connections between components of the CNG or LNG system 16
5.8.2 Remote-controlled shut-off valve 17
5.8.3 Refuelling connector 17
5.9 Electrical installation 17
5.10 Fuel selection system 18
5.11 Gas detection 18
5.11.1 General 18
5.11.2 Alarm position 19
5.11.3 Sensors position 19
5.12 Forced ventilation 19
5.12.1 General 19
5.12.2 Purging of engine space 19
5.12.3 Position of venting 19

6 Fire-extinguishing equipment **20**

7 Owner's manual **20**

8 Commissioning **20**

8.1 General 20

8.2 Tightness test 20

8.3 Leakage test 20

8.4 Initial filling of the container/cylinder and the system with LNG/CNG 20

8.5 Fuel system test 21

8.6 Water trial 21

Annex A (normative) **Fixing requirements for containers with a capacity up to and including 150 l** **22**

Annex B (normative) **Fixing requirements for containers/cylinders with a capacity over 150 l** **24**

Annex C (normative) **Cylinder/container securing requirements** **25**

Annex D (normative) **Owner's manual** **28**

Annex E (informative) **Example of installation certificate** **31**

Annex F (informative) **Example CNG or LNG identification label** **32**

Bibliography **34**