

# DIN EN 17921:2024-08 (E)

## Natural gas fuelling stations - LNG unloading connector

---

<b>Contents</b>		<b>Page</b>
	European foreword .....	4
	Introduction .....	5
1	Scope .....	6
2	Normative references .....	7
3	Terms and definitions .....	8
4	Functional requirements .....	9
4.1	General requirement .....	9
4.2	Functional description of the LNG unloading connector .....	10
4.2.1	General .....	10
4.2.2	Dry connector .....	10
4.2.3	Protective cap .....	10
4.2.4	Type of mounting .....	10
4.2.5	Positive locking .....	10
4.2.6	Safe disconnect .....	10
4.2.7	(Internal) Check valve .....	10
4.2.8	Venting and depressurization .....	11
4.2.9	Electrical conductivity .....	11
4.2.10	Spillage volume .....	11
5	Technical description of LNG unloading connector .....	11
5.1	Materials .....	11
5.1.1	General .....	11
5.1.2	LNG unloading connector .....	11
5.1.3	Corrosion protection .....	11
5.2	Pressure rating .....	11
5.2.1	Maximum allowable working pressure (MAWP) .....	11
5.2.2	Maximum working pressure .....	11
5.2.3	Design cycle life; .....	11
5.3	LNG unloading connector mounting .....	12
5.4	LNG unloading connector working temperature range .....	12
5.4.1	General .....	12
5.4.2	Material of the bodies of the LNG unloading receptacle and of the LNG unloading nozzle .....	12
6	Design of the LNG unloading connector .....	13
7	Tests requirements .....	14
7.1	General requirements .....	14
7.1.1	General .....	14
7.1.2	Ambient test conditions .....	14
7.1.3	Cryogenic test conditions .....	15
7.2	Shell tightness at ambient temperature .....	15
7.3	Shell strength at ambient temperature .....	15
7.4	Seat tightness at ambient temperature .....	15
7.5	Obturator strength at ambient temperature against atmosphere .....	15
7.6	Shell tightness at minimum working temperature .....	16
7.7	Seat tightness at minimum working temperature .....	16
7.7.1	General .....	16

7.7.2	Test arrangement for LNG unloading nozzle (Figure 3) .....	16
7.7.3	Test arrangement for LNG unloading receptacle (Figure 4) .....	17
7.8	Burst test .....	17
7.9	Operation test at minimum working temperature .....	17
7.10	Endurance test .....	18
7.11	Bending test .....	18
7.12	Drop test .....	18
7.13	Tensile force .....	19
7.13.1	Manual force in warm conditions .....	19
7.13.2	Manual force at cold conditions under frost .....	19
7.14	Corrosion resistance .....	19
8	Safety requirements .....	20
9	Maintenance .....	20
	Bibliography .....	21