

DIN EN 17921:2024-08 (E)

Natural gas fuelling stations - LNG unloading connector

Contents		Page
	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