

Institut luxembourgeois de la normalisation de l'accréditation, de la sécurité et qualité des produits et services

ILNAS-EN ISO 24252:2022

Biogas systems - Non-household and non-gasification (ISO 24252:2021)

Installations de méthanisation - Non domestique et sans gazéification (ISO 24252:2021)

Biogasanlagen - Nicht häusliche und nicht auf Vergasung beruhende Anlagen (ISO 24252:2021)

01011010010 0011010010110100101010101111

National Foreword

This European Standard EN ISO 24252:2022 was adopted as Luxembourgish Standard ILNAS-EN ISO 24252:2022.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html

THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

EUROPEAN STANDARD ILNAS-EN ISO 24252:20 EN ISO 24252

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2022

ICS 27.190

English Version

Biogas systems - Non-household and non-gasification (ISO 24252:2021)

Installations de méthanisation - Non domestique et sans gazéification (ISO 24252:2021)

Biogasanlagen - Nicht häusliche und nicht auf Vergasung beruhende Anlagen (ISO 24252:2021)

This European Standard was approved by CEN on 5 September 2022.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword	3

European foreword

The text of ISO 24252:2021 has been prepared by Technical Committee ISO/TC 255 "Biogas" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 24252:2022 by Technical Committee CEN/TC 408 "Natural gas and biomethane for use in transport and biomethane for injection in the natural gas grid" the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2023, and conflicting national standards shall be withdrawn at the latest by March 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 24252:2021 has been approved by CEN as EN ISO 24252:2022 without any modification.

IINTERNATIONAL STANDARD

ISO 24252

First edition 2021-11

Biogas systems — Non-household and non-gasification

Installations de méthanisation — Non domestique et sans gazéification





COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Co	Contents			
Fore	eword		vi	
Intr	oductio	011	vii	
1	Scon	oe	1	
2	-	native references		
3		ns and definitions		
4	Abbı	reviated terms	2	
5	Guid	le for reading this document	2	
6	Safe	ty principles	3	
7	Safe	ty studies	4	
	7.1	General		
	7.2	Risk assessment and evaluation		
		7.2.1 Risk assessment construction, start-up and maintenance		
		7.2.2 HAZOP/HAZID		
	7.3	Explosion protection document (EPD)		
	7.4	Environmental requirements	5	
8	Gene	eral design requirements	6	
	8.1	Materials and structures		
		8.1.1 General		
		8.1.2 Materials		
		8.1.3 Structures, weight and stability calculations		
	8.2	8.1.4 Use of used materials and equipment		
	0.2	8.2.1 General		
		8.2.2 Gas-side part of the system		
		8.2.3 Cooling systems		
	8.3	Pressure protection	8	
	8.4	Safety distances		
	8.5	Electronic monitoring of the process		
		8.5.1 General		
	0.6	8.5.2 Monitoring of the process Buildings and building services	11	
	8.6	8.6.1 General		
		8.6.2 Gas detection and electronic monitoring inside buildings		
		8.6.3 Ventilation		
	8.7	Noise protection		
	8.8	Odour prevention	14	
	8.9	Soil and surface water protection		
	8.10	Condensate and particle removal		
	8.11	Storage of hazardous substances		
	8.12	8.11.1 Storage hazardous substances in general		
	8.13	Facilities at power failureAir pollution control devices for removal of superfluous biogas (flares, thermal	13	
	0.13	oxidizers gas, etc.)		
	8.14	Unwanted venting and discharges of hazardous gases		
	8.15	Flame protection and mitigation		
	8.16	Fire-fighting and extinguishing	17	
	8.17	Earthing and lightning protection		
	8.18	Emergency routing		
	8.19	Anti-collision		
	8.20 8.21	Access controlElectrical, instrumentation and process control		
	0.41	LICCLI ICUI, IIIJLI UIIICIILULIUII UIIU DI UCCOS CUIILI UI	10	

9		as pipelines for untreated biogas			
	9.1	General			
	9.2	Materials			
	9.3	Civil design			
	9.4	Removal of moisture and contaminants	20		
10	Tech	Technical specifications and requirements biogas production			
	10.1	General	20		
	10.2	Biomass supply and storage			
	10.3	Desulphurization	21		
	10.4	Biogas buffer	21		
	10.5	Storage, removal and stabilizing digestate	21		
	10.6	Specific attention points and requirements landfill sites	22		
	10.7	Specific requirements additional to <u>Clause 8</u>	22		
		10.7.1 Materials and structures	22		
		10.7.2 Equipment, pipes, valves and other process system facilities	23		
		10.7.3 Pressure protection			
		10.7.4 Foam			
		10.7.5 Safety distances			
		10.7.6 Electronic monitoring of the process			
		10.7.7 Buildings and building services	24		
		10.7.8 Noise protection			
		10.7.9 Soil and surface water protection			
		10.7.10 Condensate and particle removal			
		10.7.11 Storage of hazardous substances			
		10.7.12 Facilities at power failure	25		
		10.7.13 Air pollution control devices for removal of superfluous biogas (flares,			
		thermal oxidizers gas etc.)			
		10.7.14 Venting			
		10.7.15 Flame protection and mitigation			
		10.7.16 Firefighting and extinguishing			
		10.7.17 Earthing and lightning protection			
		10.7.18 Emergency routing			
		10.7.19 Anti-collision			
		10.7.20 Electrical, instrumentation & process control	26		
11	Tech	nical specifications and requirements biogas treatment, CHP, upgrading and			
		faction			
	11.1	General	26		
	11.2	Desulphurization	26		
	11.3	Biogas upgrading and liquefaction	27		
	11.4	Process system facilities	27		
		11.4.1 General			
		11.4.2 Gas-side part of the system	27		
		11.4.3 Cooling systems			
	11.5	Specific requirements additional to <u>Clause 8</u>			
		11.5.1 Materials and structures			
		11.5.2 Pressure protection			
		11.5.3 Safety distances			
		11.5.4 Electronic monitoring of the process			
		11.5.5 Buildings and building services			
		11.5.6 Noise protection			
		11.5.7 Soil protection			
		11.5.8 Condensate and particle removal			
		11.5.9 Storage of hazardous substances	29		
		11.5.10	2.0		
		Facilities at power failure	30		