



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS B 8121 : 2023

(ACEJ/JSA)

Terms and definitions of cogeneration

ICS 01.040.27;01.040.29;27.010;29.160.40

Reference number: JIS B 8121 : 2023 (E)

PROTECTED BY COPYRIGHT

B 8121 : 2023

Date of Establishment: 2001-08-20

Date of Revision: 2023-09-20

Date of Public Notice in Official Gazette: 2023-09-20

Investigated by: Japanese Industrial Standards Committee
Standards Board for ISO area

JIS B 8121 : 2023, First English edition published in 2024-12

Translated and published by: Japanese Standards Association
Mita Avanti, 3-11-28, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2024

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

PROTECTED BY COPYRIGHT

HN
 **Documents**
Document Sharing Hub

Contents

	Page
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
3.1 General matters of system	1
3.2 Environment	6
3.3 System plan and operation	6
3.4 Operation control	8
3.5 System components	9

Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Advanced Cogeneration and Energy Utilization Center (ACEJ)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS B 8121 : 2009**), which has been technically revised.

This **JIS** document is protected by the Copyright Act.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, published patent application or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, published patent application or utility model rights.

—

Terms and definitions of cogeneration

1 Scope

This Japanese Industrial Standard specifies the main terms and definitions related to general matters of system, environment, plan and operation, operation control, system components, or other matters of cogeneration.

2 Normative references

There are no normative references in this Standard.

3 Terms and definitions

Terms and definitions are as follows.

English equivalents are shown for reference.

3.1 General matters of system

a) General

No.	Japanese term	Definition	English equivalent (informative)
1101	コージェネレーション	operation which simultaneously generates electric power and/or motive power as well as effective heat from a single or multiple energy resources	cogeneration
1102	ガスエンジンコージェネレーション	cogeneration operated by using a gas engine as the prime mover	gas engine driven cogeneration
1103	ガスタービンコージェネレーション	cogeneration operated by using a gas turbine as the prime mover	gas turbine driven cogeneration
1104	ディーゼルエンジンコージェネレーション	cogeneration operated by using a diesel engine as the prime mover	diesel engine driven cogeneration
1105	コージェネレーションユニット, CGU	unit which simultaneously generates electric power and/or motive power as well as effective heat from a single or multiple energy resources Note 1 to entry It consists of a prime mover (gas engine, gas turbine, diesel engine, etc.), generator, waste heat recovery device, etc.	cogeneration unit
1106	コージェネレーションパッケージ, CGP	CGU with all its components housed in an enclosure Note 1 to entry Some CGUs of this type have a generator panel and /or a waste heat recovery device separately installed.	cogeneration package

No.	Japanese term	Definition	English equivalent (informative)
1107	コージェネレーションシステム, CGS	system which simultaneously generates electric power and/or motive power as well as effective heat from a single or multiple energy resources, and supplies and utilizes them Note 1 to entry It mainly consists of a CGU, grid-connected operation device, exhaust heat utilization device, etc.	cogeneration system
1108	蒸気回収コージェネレーション	cogeneration which generates steam as a means of effective heat recovery	cogeneration providing steam
1109	温水回収コージェネレーション	cogeneration which generates hot water as a means of effective heat recovery	cogeneration providing hot water
1110	蒸気・温水回収コージェネレーション	cogeneration which generates steam and hot water as a means of effective heat recovery	cogeneration providing steam and hot water
1111	従来システム	system to be compared to a CGS to calculate the effect of introduction of the CGS Note 1 to entry For example, a system combining the power grid, boiler, refrigerator, etc.	alternative conventional system
1112	蒸気噴射サイクル	in a gas turbine CGU, cycle which injects part or all of the steam generated by a waste heat recovery steam generator to the combustor of a gas turbine and activates the turbine with the mixture of combustion gas and steam	steam injection cycle
1113	コンバインドサイクル	cycle in which a high-temperature heat engine cycle and a low-temperature heat engine cycle are combined in series Note 1 to entry For example, a cycle combining a gas turbine and a steam turbine.	combined cycle
1114	コージェネレーションユニット補機	auxiliary facility required for the operation of a CGU Note 1 to entry For example, a heat recovery pump, a cooling tower facility, etc.	essential auxiliary of CGU
1115	省エネルギー率	ratio of the energy quantity reduction achieved by the adoption of the CGS to the energy quantity used in the operation of an alternative conventional system Note 1 to entry It is obtained by the following formula. $E_{sf} = \frac{H_1 - H_2}{H_1} \times 100 (\%)$ where, E_{sf} : energy saving ratio (%) H_1 : energy quantity used in operation of alternative conventional system (MJ) H_2 : energy quantity used in the case of adoption of CGS (MJ)	rate of saving energy, energy saving ratio