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GB/T 18916.41-2019

Norm of water intake - Part 41: Yeast production

取水定额 第 41 部分：酵母制造

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Foreword

GB/T 18916, Norm of water intake, includes the following parts, which have been or are planned to be released:

-- Part 1: Fossil fired power production;

-- Part 2: Iron and steel complex;

-- Part 3: Petroleum refining;

-- Part 4: Dyeing and finishing of textile industrial product;

-- Part 5: Pulp, paper and paper board production;

-- Part 6: Beer brewing industry;

-- Part 7: Alcohol production;

-- Part 8: Synthetic ammonia;

-- Part 9: Monosodium L-glutamate production;

-- Part 10: Pharmaceutical products;

-- Part 11: Coal cleaning;

-- Part 12: Alumina production;

-- Part 13: Ethylene production;

-- Part 14: Wool textile product;

-- Part 15: Chinese spirits production;

-- Part 16: Electrolytic aluminium production;

-- Part 17: Manufacture of accumulating type of bauxite;

-- Part 18: Copper smelting production;

-- Part 19: Lead smelting production;

-- Part 20: Chemical filament yarns weaving products;

-- Part 21: Silk production;

-- Part 22: Starch sugar production;

Norm of water intake - Part 41: Yeast production

1 Scope

This Part of GB/T 18916 gives the terms and definitions, calculation methods and norm of water intake for norm of water intake of yeast production.

This Part applies to the management of water intake for current, newly-built and extended yeast production enterprises.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 12452, The general principles of water balance test in enterprises

GB/T 18820, General principles of stipulation of water intake norm for industrial product

GB/T 21534, Industrial water usage and conservation. Terminology

GB 24789, General provisions on equipping and managing of the measuring instrument of water in organization of water using

GB/T 32099, Guideline for yeast products classification

3 Terms and definitions

Terms and definitions determined by GB/T 18820, BG/T 21534, GB/T 32099 and the following ones are applicable to this document.

3.1 Yeast production

The process, in which molasses and starchy substances are carbon sources, nutrients that are required for the growth and reproduction of yeast cells such as nitrogen sources and phosphorus sources are added, and steps such as culturing, separating, filtering and drying are taken to produce yeast products or yeast-derived products.

4 Calculation methods

4.1 General provisions

4.1.1 Range of water intake

The range of water intake refers to the amount of water that is taken by the enterprise from conventional water resources, including the amount of water from surface water (measured by water purification plant water supply), groundwater, urban water supply projects, and other water or water products (such as steam, hot water) that are purchased by the enterprise from the market.

4.1.2 Supply range of water intake

The supply range of yeast production water intake includes: main production (yeast products include steps such as raw material processing, fermentation, separation, filtration, drying; yeast-derived products include steps such as self-digestion, enzymolysis, separation, concentration or drying, which takes yeast as the main raw material), auxiliary production (including boiler, cycle cooling and environmental protection) and ancillary production (including office, greening, factory canteens and bathrooms, toilets).

4.1.3 Measure of water intake

The water intake is based on the company's primary meter.

4.2 Water intake per unit of product

4.2.1 Water intake per ton of yeast product

The water intake per ton of yeast product is calculated according to Formula (1):

$$V_{ui} = \frac{V_i}{Q_1} \qquad \cdots\cdots(1)$$

Where:

V_{ui} -- the water intake per ton of yeast product, in cubic meters per ton (m^3/t);

V_i -- the total amount of water intake in the production process within a certain measurement time, in cubic meters (m^3);

Q_1 -- the drying yield of yeast milk in the fermentation process that is required for producing yeast products in a certain metering time, in tons (t).

4.2.2 Water intake per ton of yeast-derived products

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