ICS 55.200
CCS J 83



# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

# GB/T 44996-2024

## General technical requirements for bag forming, dosing and sealing machine of edible salt

食用盐袋成型充填封口机通用技术要求

**Issued on: November 28, 2024** **Implemented on: June 1, 2025**

**Issued by: State Administration for Market Regulation;**
**Standardization Administration of the PRC**

# Table of Contents

## 1 Scope

This document defines the terms and definitions of the bag forming, dosing and sealing machine for edible salt, specifies the model designation, the basic parameters and working conditions, the technical requirements, the inspection rules and the nameplate, packing, transport and storage, and describes the corresponding test methods.

This document applies to the design, manufacture and inspection of bag forming, metering, dosing and sealing machines for edible salt, hereinafter called packaging machines.

## 3 Terms and definitions

3.1 bag forming, dosing and sealing machine of edible salt. A machine that automatically completes the operations of bag forming, metering of the edible salt, filling, sealing and cutting off.

3.2 finished product. The product obtained after bag forming, metering, filling, sealing and cutting off.

3.3 production capacity. The number of finished products completed per unit of time when the packaging machine is working normally.

3.4 qualified finished product rate. The percentage of the number of qualified finished products in the total number of finished products when the packaging machine is working normally.

## 4 Model designation, basic parameters and working conditions

4.1 Model designation. The model designation of the packaging machine shall be drawn up in accordance with GB/T 7311. Example: DXDY-R420/70 designates a bag forming, dosing and sealing machine for edible salt with a maximum film width of 420 mm, an output of 70 bags per minute and volumetric metering, of the first design.

4.2 Basic parameters. The names and units of the basic parameters of the packaging machine are: a) production capacity, in bags per minute; b) maximum film width, in millimetres; c) metering range, in grams; d) rated voltage and frequency, in volts and hertz; e) rated total power, in kilowatts; f) air consumption, in cubic metres per minute; g) reference overall dimensions, length by width by height in millimetres; h) reference mass of the complete machine, in kilograms.

4.3.1 The working ambient temperature shall be 5 degrees Celsius to 30 degrees Celsius, the relative humidity shall not be greater than 70 %, and the altitude shall not be greater than 1 000 m.

4.3.2 The deviation of the supply voltage from the rated voltage shall conform to 4.2 and 4.3 of GB/T 12325-2008.

4.3.3 The pressure of the compressed air supply shall be 0.6 MPa to 0.8 MPa. The quality of the compressed air shall conform to GB/T 13277.1-2023, with a particle class not lower than class 4, a humidity and liquid water class not lower than class 4, and a total oil content class not lower than class 3.

4.3.4 The packaging material in direct contact with the edible salt shall conform to the relevant national or industry standards, and composite film packaging material shall conform to GB/T 21302.

## 5 Technical requirements

5.1.1 The packaging machine shall be manufactured according to drawings and technical documents approved by the prescribed procedure.

5.1.2 The packaging machine shall run smoothly; the moving parts shall act sensitively, in coordination and accurately, without jamming and without abnormal heating, vibration or noise.

5.1.3 The pneumatic components and lines shall conform to GB/T 7932; the connections of the air lines shall be tight and free from leakage.

5.1.4 The heat-sealing temperature regulator shall allow the temperature to be adjusted within a certain range, the temperature set shall be stable, and a heating indication shall be provided.

5.2.1 Production capacity. The production capacity of the packaging machine shall reach the rated production capacity.

5.2.2 Temperature deviation on the surface of the heat-sealing part. The temperature deviation over the effective heat-sealing length on the surface of the heat-sealing part shall be within plus or minus 15 degrees Celsius.

5.2.3 Fill quantity and average actual content. The deviation of the fill quantity of edible salt shall conform to Table 1, and the average actual content shall conform to JJF 1070. Table 1 sets the permitted deviation of the fill quantity by category of edible salt, refined salt, low-sodium salt, crushed and washed salt and solar salt, across bands of declared net content; the table is broken up in the scan and the values cannot be assigned to the individual categories and bands with certainty, so no figures are reproduced here.

5.2.4.1 The seal of the finished product shall be flat, with clear impressions or embossing and without noticeable creases, scorching or pierced spots; the marking information on the finished product, such as the production date and the production batch number, shall be correct, clear and durable, and the printing position shall be consistent.

5.2.4.2 The dimensional errors of the finished product, see Figure 1, shall meet the following requirements: a) the overlap deviation of the longitudinal seal shall not be greater

than 2 mm; b) the deviation of the centre position of the longitudinal seal shall not be greater than 2 mm; c) where the control method uses register mark positioning, the error of the cut-off position shall not exceed plus or minus 2 mm; where the bag length is controlled by other means, the error shall not exceed plus or minus 2 mm for a bag length less than 100 mm, and shall not exceed plus or minus 2 % of the bag length for a bag length of 100 mm or more.

5.2.4.3 The heat seal strength of the finished product shall conform to Table 2, which grades the requirement by the thickness R of the heat-sealing layer: for a thickness of 0.02 mm up to but not including 0.08 mm, not less than 10 N per 15 mm; for 0.08 mm up to but not including 0.18 mm, not less than 15 N per 15 mm; for 0.18 mm up to but not including 0.36 mm, not less than 50 N per 15 mm; and for 0.36 mm and above, not less than 70 N per 15 mm. Note: the material thickness in the table is the thickness of the heat-sealing layer material, the heat-sealed part mostly being made of a readily heat-sealable material.

5.2.4.4 After the drop test the seal of the finished product shall be intact and free from leakage.

5.2.4.5 The qualified finished product rate shall not be lower than 98 %.

5.2.5 Working noise. The working noise of the packaging machine shall not be greater than 80 dB(A).

5.3.1 The electrical control systems of the packaging machine shall conform to GB/T 5226.1-2019, shall be safe and reliable and shall act accurately; the wiring of each electrical device shall be securely connected and numbered; the operating buttons shall be responsive; the indicator lamps shall display normally. The packaging machine shall be fitted with an emergency stop device; once the emergency stop actuator has interrupted the subsequent commands, that command shall remain effective until it is reset. Resetting shall only be possible by manual operation at the position where the emergency command was initiated. Manual resetting of the emergency stop command shall not cause the packaging machine to restart automatically; restarting shall only be possible by the normal operating action.

5.3.2 The insulation resistance measured between the power circuit conductors and the protective bonding circuit of the packaging machine with 500 V DC applied shall not be less than 1 megohm.

5.3.3 The packaging machine shall have a reliable earthing device with a clear earthing mark. All exposed conductive parts shall be connected to the protective bonding circuit as required by 8.2 of GB/T 5226.1-2019. The connection between the earthing terminal or earthing contact and the earthed metal part shall have a low resistance, not exceeding 0.1 ohm.

5.3.4 The power circuit conductors and the protective bonding circuit of the packaging