GB

National Standard of People's Republic of China

GB 15066—2004
In replacement of GB 15066—1994

Stainless Steel Pressure Cooker

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Forward

All technical contents in this standard are compulsory.
This standard takes reference of "Requirements and Test Methods for Steams Flat Bottom Pressure Cooker" of DIN 66065:1990.
This standard is the revision of "Stainless Steel Pressure Cooker" of GB 15066—1994

Major technical differences between this standard and GB 15066—1994 are as follows:

1 Nominal working pressure is adjusted from previous standard 50 kPa ~ 100 kPa to current 50 kPa ~ 120 kPa;
2 Adopt "Multi-layer Bonding Bottom" term and definition, and cancel "Double Layer Bonding Bottom" term and definition;
3 Take reference of specification of DIN 66065: 1990, and add specification of destructible pressure;
4 Take reference of specification of DIN 66065: 1990, and add specification of requirements for handle quantity, structure and temperature rise of pressure cooker;
5 Take reference of specification of DIN 66065: 1990, and add specific specification on concave within compound bottom and specific requirement for fastening test on compound bottom;
6 Add determining requirement for covering effective length of "Lid Covering Safety";
7 Cancel requirements of maximum allowable pressure for covering type pressure cooker, and replaced by requirement of added maximum heating pressure;
8 Take reference of specification of DIN 66065: 1990, and add requirement of decompression pressure;
9 Take reference of specification of DIN 66065: 1990, and exam seal ring by two data, i.e. acid resistance and oil-resistance;
10 Cancel requirement of "Surface Quality" data.

The Annex A of this standard is informative Annex.
This standard puts forward by China Light Industry Union.
This standard belongs to National Daily Hardware Standardization Center.

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The historical edition issue of this standard: GB 15066—1994.

Stainless Steel Pressure Cooker

1. Scope

This standard specifies the terms and definition of stainless steel pressure cooker (hereinafter referred to as pressure cooker), products classification, requirements, sampling, test method, mark, label, instruction manual, package, transportation, and storage.

This standard is applicable to the pressure cooker for family use processed by stainless steel plate with the nominal working pressure between 50 ~120 kPa and capacity which is no greater than 18 L.

This standard is not applicable to pressure cooker with pressure fry by cooking oil.

2. Standardized Documents for Citation

The articles in the following documents are the articles of this standard through citation. The cited documents with marking date and all subsequent attached correct sheets (excluding contents error) or revised editions are not applicable to this standard. However, it is encouraged to study if it is applicable to the latest edition of these documents in accordance with agreement by all parties. As for cited documents without marking date, the latest edition of these documents is applicable to this standard.

GB/T 191	Packaging-Pictorial marking for handling of goods (GB/T191-2000, eqv ISO 780:1997
GB/T 2828	Sampling procedures and tables for batch inspection by attributes (applicable to sustained batch inspection)
G B/T 2829	Sampling procedures and tables for periodic inspection by attributes (applicable to inspection of process stability)
GB/T 3190	Wrought aluminum and aluminum alloys-Chemical composition limits
GB/T 3280	Cold rolled stainless steel sheets and plates
GB 4806.1	Hygienic standard for rubber products, which for food use
GB/T 5009.72	Analyze method for Hygienic standard – aluminum-wares for food use
GB/T 6388	Transport package shipping mark
GB/T 6543	Corrugated box
GB/T 6544	Corrugated fiberboard
GB 9684	Hygienic standard for stainless steel food containers and tableware
GB 11333	Hygienic standard for aluminum-wares for food use
GB/T 11681	Analyze method for hygienic standard - stainless steel food containers and tableware
QB/T 3826	Neutral salt spray for antirust test: metal coating and chemical treat surface for light industrial products
QB/T 3832-1999	Estimation of metal coating rust test for light industrial products

3. Terms and Definition

The following terms and definition are applicable to this standard.

3.1
Single layer bonding bottom
Compound 1 layer metal plate on cooker's bottom

3.2
Multi layer bonding bottom
Compound 2-layer or above metal plate on cooker's bottom

3.3
Pressure control device
Control pressure cooker to exhaust within working pressure, and ensure normal operation.

3.4
Safety device
Control pressure cooker to exhaust within safety pressure and ensure safety.

3.5
Decompression device
Control pressure cooker to automatically exhaust within decompression pressure, and ensure safety.

3.6
Nominal working pressure
Design pressure of pressure control device.

3.7
Working pressure
Value shows on pressure gauge when pressure control device is in exhausting status.

3.8
Safety pressure
Value shows on pressure gauge when safety device is in exhausting status.

3.9
Maximum heating pressure
Pressure cooker can bear the largest internal heating pressure when no permanent deformation obviously occurs under sealing condition.

3.10
Maximum allowable pressure
Pressure cooker can bear the largest internal pressure when no permanent deformation obviously occurs under sealing condition.

3.11
Decompression pressure
Value shows on pressure gauge when decompression structure is in exhausting status.

3.12
Destructible pressure
Pressure cooker can bear the largest Pressure value on pre ssure gauge.

4. Products Classification

4.1
Variety
Products can be classified according to cooker's bottom structure: single layer bonding bottom (D), multi layer bonding bottom (S).

Products can be classified according to structure type: turning type (A), falling type (B), pressing type (C) and other structure (D). Please refer to Annex A.

4.2
Specification

4.2.1
Specification is expressed by inner diameter of cooker's (falling and pressing types are expressed by inner diameter of upright wall of body), capacity and nominal working pressure.

4.2.2
When specification is expressed by inner diameter of cooker's, the unit is CM taken by integer, and adopts even series in priority.

4.2.3
When specification is expressed by capacity, the unit is liter and take numerical value after one decimal.

4.2.4
When specification is expressed by nominal working pressure, the unit is kPa taken by integer.

4.3
Product mark

4.3.1
Mark is expressed by product variety, inner diameter of cooker's, body capacity, nominal working pressure (or nominal working pressure range), and standard number.

4.3.2
Mark examples:
Turning-type pressure cooker with multi layer bonding bottom, which is 26 cm in

inner diameter of cooker, 10 L in body capacity, and 100 kPa in nominal working pressure, is marked by AS26-10, 0 ~100 and GB 15066—2004.

Pressing-type pressure cooker with single layer bonding bottom, which is 24 cm in inner diameter of cooker, 8.3 L in body capacity, and 50 ~100 kPa in nominal working pressure, is marked by CD 24-8.3-50 ~100 and GB 15066—2004.

5. Requirements

5.1
Material

5.1.1
Body and lid shall adopt 1Cr18Ni9 and 0Cr18Ni9 stainless steel specified in GB/T 3280, or other stainless steel which is no lower than above-mentioned specification in performance.

5.1.2
Single layer bonding bottom metal shall adopt industrial pure aluminum or other metal material with good heat-conductivity specified in GB/T 3190. The thickness of compound layer (excluding body material) shall not be less than 2.5 mm.

5.1.3
The inner layer of multi layer bonding bottom metal shall adopt the same material as single layer bonding bottom while outer layer shall adopt metal with protection and decoration function. The thickness of compound layer (excluding body material) shall not be less than 2.5 mm.

5.2
Mark
The permanent mark on pressure cooker shall be full, correctitude, clear, and endurable.

5.3
Pressure cooker and hand-touching part
Pressure cooker and hand-touching part shall be smooth without burr.

5.4
Polishing
Polishing surface of pressure cooker shall be bright with consistence, and surface roughness R_a shall not be larger than 0.8 μm.

5.5
Capacity
The actual capacity of pressure cooker shall not be smaller than 95% of declared capacity.

5.6
Assembly

Pressure cooker assembly shall be full without missing part, among which pressure control device, safety device and decompression device cannot be interchangeable. Pressure control device shall be marked with trademark and nominal working pressure value.

5.7
Handle

5.7.1
Body of pressure cooker shall be equipped with two handles and lid should be equipped with at least one handle.

5.7.2
Handle structure shall ensure that operator's hand shall not touch fastening screw at handle when in use.

5.7.3
Connection of handle shall be reliable. After testing as per 7.2.6.3, no abnormal phenomenon takes place such as loosening, deformation and crack at handle.

5.7.4
Handle temperature rise
a) Test plastic handle as per 7.2.6.4, and handle temperature rise shall be below 45 K.
b) Test metal handle as per 7.2.6.4, and handle temperature rise shall be below 35 K.

5.7.5
After testing the fastening part between handle and pressure cooker as per 7.2.6.5, there shall be no loosening and deformation.

5.8
Lid covering safety

5.8.1
The upper and lower handles shall be overlapped when pressure cooker is in normal operation, and the effective length of buckle between body and bayonet shall be greater than 85%.

5.8.2
When the effective length of buckle between body and bayonet is not greater than 85%, the pressure inside cooker can't exceed 5 kPa.

5.9
Working pressure
The working pressure is nominal working pressure of 0.9 ~ 1.1 times.

5.10
Pressure control device
When pressure cooker is in operation, Pressure control device shall not fall off

by itself, and hand-burning resistance part shall be available on Pressure control device body.

5.11
Sealing
When vapor pressure inside cooker is within 20 kPa to working pressure, there shall be no water-drop and air-leakage.

5.12
Safety pressure
The safety pressure is nominal working pressure of 1.4 ~ 2 times.

5.13
Maximum heating pressure
Vapor pressure inside cooker is 2 times of the max. nominal working pressure maintaining for one minute. After decompression, test it by sealing and it is still in accordance with 5.11 requirement.

5.14
Lid-opening safety
Pressure cooker shall possess lid-opening safety device. When pressure inside cooker is above 5 kPa, lid shall be unable to open.

5.15
Anti-jam safety
Pressure cooker shall possess anti-jamming safety device to prevent exhaust hole of Pressure control device from jamming. Test it as per 7.2.13, the Pressure value on pressure gauge shall not exceed 1.25 times of the max. nominal working pressure within 10 minutes.

5.16
Maximum allowable pressure
Maximum allowable pressure shall not be smaller than 3 times of the max. nominal working pressure. After testing it as per 7.2.14, there shall be no water-leakage from pressure cooker. After decompression, does the sealing test, and it is still in accordance with 5.11 requirement.

5.17
Decompression pressure

5.17.1
When pressure inside cooker is greater than 2 ~ 3.5 times of the max. nominal working pressure, and the max. pressure does not exceed 350 kPa, decompression device shall automatically exhaust so as to continuously decrease pressure inside cooker. Pressure shall be decreased to below 20 kPa within 60 seconds.

5.17.2
When pressure inside pressing-type pressure cooker is greater than pressure within safety pressure to 3.5 times of the max. nominal working pressure,

decompression device shall automatically exhaust, and pressure inside cooker shall not exceed 3.5 times of the max. nominal working pressure.

5.17.3
When decompression device is in operation, some relevant parts can't fly away from body.

5.18
Compound bottom

5.18.1
When pressure cooker is at room temperature, the bottom is not convex and inner concave can't exceed 0.6 % of bottom diameter.

5.18.2
After testing pressure cooker as per 7.2.16.2, 7.2.16.3, the compound bottom is fastened with no crack, and bottom is not protruding.

5.19
Destructible pressure
Destructible pressure of pressure cooker shall not be lower than 500 kPa. After testing it as per 7.2.17, body and lid separation is not allowed.

5.20
Steel assembly
The steel assembly of non stainless steel requires anti-corrosion treatment. After testing it as per 7.2.18, corrosion resistance grade shall be greater than or equal to grade 4.

5.21
Cooking resistance of plastic assembly
Plastic assembly shall possess good cooking resistance. After testing it as per 7.2.19, there shall be no cracking, bubble, air hole and no obvious discolor as well as no obvious irritant smell.

5.22
Hygiene requirements

5.22.1
Hygiene requirement for pressure cooker and food-touching part shall be in accordance with stipulation in GB 9684 and GB 11333.

5.22.2
Rubber assembly and seal rings touched with air and food inside cooker shall be in accordance with stipulation in GB 4806.1.

5.23
Seal ring

5.23.1

Acid resistance
After testing seal rings as per 7.2.21.1, expansion change of volume can't be greater than 25% or shrinkage less than 1%.

5.23.2
Oil resistance
After testing seal rings as per 7.2.21.2, the quality of tested samples shall not be increased by above 20%.

6.Sampling

6.1
Products inspection is classified into factory inspection and type inspection.

6.2
Factory inspection adopts one time sampling program by normal inspection as per stipulation of GB/T 2828, and counts non-passing product numbers based on one hundred unit products. Factory inspection items: non-passing classification, inspection level and passing quality level shown as table 1.

6.3
Type inspection adopts two time sampling program by differentiation level II as per stipulation of GB/T 2829, and hygiene requirement inspection adopts one time sampling program by differentiation level II. Counts non-passing product numbers based on one hundred unit products.

6.3.1
Type inspection shall be conducted in event of any case of the followings:
a) Design-finalizing appraisal on trial production of new product.
b) Design-finalizing appraisal on trial production for product transfer to other factory.
c) When there are big changes in structure, material and technology, and it might influence product performance;
d) Under normal production, no less than one time every year;
e) Re-manufacture product after production stop for more than six months;
f) When there are large differentia between factory inspection result and previous type inspection;
g) When National Quality Supervision Organ puts forward requirement.

6.3.2
Type inspection items: non-passing classification, differentiation level, size of samples and non-passing quality level shown as table 2.

Table 1 Factory Inspection Items and Differentiation

S/n	Inspection item	Non-passing classification	Corresponding articles	Inspection level	Passing quality level (AQL)
1	Lid covering safety	A	5.8.1, 5 .8.2		
2	Working pressure		5.9, 5.10		
3	Sealing		5.11		
4	Safety pressure		5.12		
5	Maximum heating pressure		5.13		
6	Lid opening safety		5.14		
7	Maximum allowable pressure		5.16		
8	Decompression pressure		5.12.1, 5.17.2,5.17.3		
9	Destructible pressure		5.19		
10	Hand-touching part	B	5.3		
11	Assembly		5.6		
12	Handle		5.7.1, 5.7.2, 5.7.3, 5.7.4, 5.7.5		
13	Cooking resistance of plastic assembly		5.21		
14	Mark	C	5.2.8.1		
15	Polishing		5.4		

Table 2 Type Inspection Items and Differentiation

S/n	Inspection item	Non-passing classification	Corresponding articles	Differentiation level	Size of sample	Non-passing quality level (AQL)
1	Lid covering safety		5.8.1, 5.8.2			
2	Working pressure		5.9, 5.10			
3	Sealing		5.11			
4	Safety pressure		5.12			
5	Maximum heating pressure		5.13			
6	Lid opening safety		5.14			
7	Anti-jamming safety		5.15			
8	Maximum allowable pressure		5.16			
9	Decompression pressure		5.17.1, 5.17.2, 5.17.3			
10	Destructible pressure		5.19			
11	Hygiene requirement		5.22.1, 5.22.2		n=3	50
12	Compound bottom		5.1.2, 5.1.3, 5.18.1, 5.18.2			
13	Instruction manual		8.3			
14	Pressure cooker and hand-touching part		5.3			
15	Assembly		5.6			
16	Handle		5.7.1, 5.7.2, 5.7.3, 5.7.4, 5.7.5			
17	Cooking resistance of plastic assembly		5.21			
18	Seal ring		5.23.1, 5.23.2			
19	Mark		5.2, 8.1			
20	Polishing		5.4			
21	Steel assembly treatment		5.20			
22	Capacity		5.5			

Note 1: Hygiene requirement inspection adopts one time sampling program at table.
Note 2: Seal ring sample for type inspection shall draw out at random from passing batches among factory inspection.

7. Test method

7.1

Test condition

7.1.1
Test equipment includes the followings:
a) One pressure gauge, class 0.4, 0 ~ 0.1 MPa;
b) One pressure gauge, class 0.4, 0 ~ 0.16 MPa;
c) One pressure gauge, class 1.6, 0 ~ 0.6 MPa;
d) One pressure gauge, class 1.6, 0 ~1 MPa;
e) One set of SB200 type test pressure pump or equivalent;
f) One KL-20 pipe ergometer;
g) One set of each electric oven respective for 1.5 kW, 2 kW and 2.5 kW with ± 5% deviation;
h) Some special adaptors or other adaptors for pressure gauge with exhaust valve;
i) One trough which is larger than sample in capacity;
j) One protection cover;
k) One thermocouple thermometer with 1.5^{o} C accuracy;
l) One thermostat;
m) One balance with 1/5 g sense;
n) One weighing apparatus with accuracy 1/3 000 F. S and the min. graduation value as 5 g;
o) One torque spanner with 30 N.m measurements;
p) One platform;
q) One gauge meter for bottom with 0.02 mm accuracy;
r) One graduated flask with 100 mL (scale 1 mL) measurement;
s) Some calipers, weights, bench tools, roughness sample, stopwatch and special tools.

Note: There is no type requirement for instruments and equipment used for test. It is all right to achieve purpose and requirement.

7.1.2
Test is conducted under constant temperature.

7.2
Test items:

7.2.1
Mark and instruction manual inspection
It shall be in accordance with requirement of 5.2, 8.1, and 8.3 by visual inspection.

7.2.2
Pressure cooker and hand-touching parts
Pressure cooker and hand-touching parts shall be smooth without burr by visual and hand-sensing inspection.

7.2.3
Polishing inspection
Conduct visual inspection on sample by roughness sample.

7.2.4
Capacity measurement
a) Place empty cooker on weighing apparatus for weighing and mass is G_1;
b) Fill and weigh cooker with water, and mass is G_2;
c) Calculate cooker capacity V as per formula 1:
$V=(G_2- G_1)/\rho$……(1)

In the formula:
G_1----body quality, unit is kilogram (kg);
G_2----body quality with water, unit is kilogram (kg);
V----capacity, unit is liter (L);
ρ----density of water, unit is 1 kg/L
d) Calculate capacity

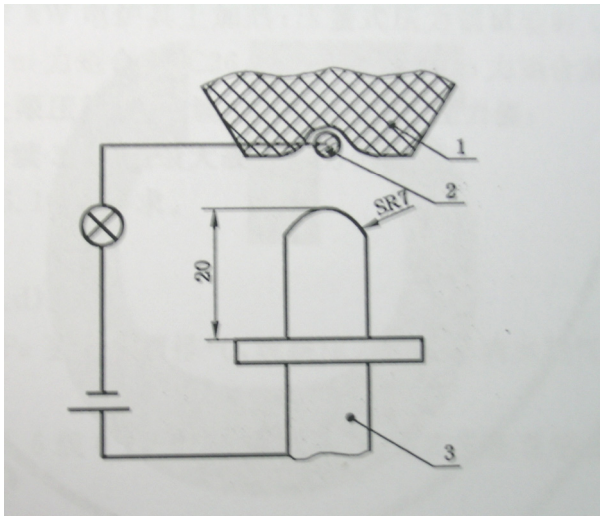
7.2.5
Assembly inspection
Conduct visual inspection on assembly, and then in alternation inspect Pressure control device, Safety device and decompression device of pressure cooker.

7.2.6
Handle test

7.2.6.1
Conduct visual inspection on cooker handle quantity.

7.2.6.2
Handle structure test
Conduct handle structure test as per Figure 1. When testing detector is access to fastening screw of handle at any azimuth, the indicator is not bright.

Unit is mm



1----handle;
2----fastening screw;
3----testing detector.

Figure 1 Handle Structure Test

7.2.6.3

Fastness test on handle connection

a) Take sample body;

b) Cooker with long and short handles are clamped at one second location from outer wall of body to end of long handle, meanwhile cooker with double short handles are clamped at double handles of one second location from outer wall of body to end of double short handles (double short handles with hole in middle is clamped at end). The effective length of clamp is 30 mm. Clamping center is overlapped with one second location from outer wall of body to end of handle so that body has certain height from working platform;

c) Evenly fill cooker with weights equivalent to 3-time water quality of actual cooker's capacity, and maintain 10 minutes;

d) Take out weights and fill cooker with water to observe if there is any water leak;

e) After testing, there is no loosening, deformation and crack on handle.

7.2.6.4

Handle temperature rise test

a) Fill cooker with two thirds water of capacity;

b) Install detector of thermocouple thermometer on lower center of plastic handle or metal handle (test end for auxiliary handle);

c) Cover lid and place cooker on electric oven for heating with power 2 kW and diameter smaller than bottom;

d) When pressure in cooker reaches working pressure, maintain pressure for 30 minutes. Record temperature value and then subtract ambient temperature.

7.2.6.5

After testing by 7.2.7, 7.2.8, 7.2.10, 7.2.11, 7.2.12, 7.2.14, conduct visual and hand-sensing inspection on fastening part between handle and pressure cooker connection.

7.2.7

Lid covering safety test (except for falling type and pressing type)

a) Inspect if upper and lower handles are overlapped when pressure cooker is in normal operation;

b) Install pressure gauge with class 0.4, 0 Mpa ~ 0.1 Mpa at Safety device hole on lid by special adaptor of pressure gauge, and close upper exhaust valve of special adaptor;

c) Fill cooker with 50% tap water of capacity;

d) Close lid so as to buckle body and lid by 85% based on normal bayonet length;

e) Place cooker on 2 kW electric oven for heating;

f) Place Pressure control device body when exhaust pipe of Pressure control device keeps on exhausting;

g) Continuously observe pressure value on pressure gauge for 120 seconds to see if pressure cooker increases pressure or not, and to see if pressure exceeds specified range.

7.2.8

Working pressure test

a) Install pressure gauge with class 0.4, 0 Mpa ~ 0.16 Mpa at Safety device hole on lid by special adaptor of pressure gauge, and close upper exhaust valve of special adaptor;
b) Fill cooker with 50% tap water of capacity;
c) Close lid and place cooker on electric oven with 2 kW for heating. When pressing type pressure cooker is in test, close lid with 6 N.m torque for C18 and C20, 9 N.m torque for C22 and C24, and 12N.m torque for C26 and C28;
d) When cooker continuously exhausts, place Pressure control device body and keep on heating to observe pressure value on pressure gauge;
e) Start from exhaust of Pressure control device, and maintain for 30 seconds. At this time obtain the largest pressure value on pressure gauge;
f) It shall be in accordance with requirement of 5.10 in the process of test.

7.2.9

Sealing test

a) Conduct test as per a), b), c), d) in 7.2.8;
b) When pressure value on pressure gauge is from 20 kPa to exhaust of Pressure control device, observe pressure cooker if there is any water drop or air leakage;

7.2.10

Safety pressure test

a) Install pressure gauge with class 1.6, 0 Mpa ~ 0.6 Mpa at Pressure control device hole on lid by special adaptor of pressure gauge, and open upper exhaust valve of special adaptor;
b) Install Safety device on Safety device hole on lid;
c) Test it as per b), c) in 7.2.8;
d) After upper exhaust valve of special adaptor keeps on exhausting for 20 seconds, close upper exhaust valve of special adaptor. Continue to heat and observe pressure value on pressure gauge from the first exhaust of Safety device to 120 seconds, and then stop heating. At this time obtain the largest pressure value on pressure gauge during the process. If pressure value on pressure gauge exceeds upper limit of safety pressure, it shall stop test.

7.2.11

Maximum heating pressure test

a) Install pressure gauge with class 1.6, 0 Mpa ~ 0.6 Mpa at Pressure control device hole on lid by special adaptor of pressure gauge, open upper exhaust valve of special adaptor, and block installation hole of Safety device on lid by special block;
b) Test it as per b), c) in 7.2.8;
c) After upper exhaust valve of special adaptor keeps on exhausting for 20 seconds, close upper exhaust valve of special adaptor. Continue to heat and observe pressure value on pressure gauge;
d) When pressure value on pressure gauge reaches 2 time of the max. nominal working pressure, and keeps pressure for 1 minute. Stop heating and open upper exhaust valve of special adaptor for decompression.

e) Conduct sealing test as per 7.2.9 to observe pressure cooker if there is any water drop or air leakage.

7.2.12

Lid opening safety test (except for falling type and pressing type)

a) Test it as per b), c) in 7.2.7;
b) Close lid so as to make body and lid in full buckled status;
c) Place cooker on electric oven with 1.5 kW for heating;
d) When exhaust pipe of Pressure control device keeps on exhausting, place Pressure control device body;
e) When pressure inside cooker reaches above 5 kPa, shift cooker from electric oven to special protection cover;
f) Fasten lower handle. When pressure inside cooker decreases to 5 kPa, exert 100 N pull on upper handle end by ergometer, which is vertical to middle line of upper handle along water level direction, and then observe if it opens.

7.2.13

Anti-jamming safety test

a) Fill cooker with respective one sixteenth paddy, green bean and polished glutinous rice of capacity, and then fill cooker with four fifth water of capacity;
b) Install pressure gauge with class 0.4, 0 Mpa ~ 0.16 Mpa at Safety device hole on lid by special adaptor of pressure gauge, close upper exhaust valve of special adaptor, and cover lid;
c) Place cooker on electric oven with 2.5 kW for heating. When exhaust pipe keeps on exhausting, place Pressure control device (in multi-scale nominal working pressure, adopt the max. nominal working pressure scale). Continue to heat and count from exhaust of Pressure control device to 5 minutes. Lift Pressure control device body for one time and time is 5 seconds;
d) Observe pressure value on pressure gauge. Within 10 minutes, pressure value is not allowed to exceed 1.25 times of the max. nominal working pressure.

7.2.14

Maximum allowable pressure (except for pressing type)

a) Install pressure gauge with class 1.6, 0 Mpa ~ 0.6 Mpa at pressure control device hole on lid by special adaptor of pressure gauge, and open upper exhaust valve of special adaptor;
b) Connect water pipe of test pressure pump and Safety device hole on lid by special adaptor. Make the other safety security device unable to actuate by auxiliary tools but can’t add the original strength of the sample;
c) Fill cooker with full water and cover lid;
d) Increase pressure by test pressure pump, and exhaust air in cooker. When water overflows from upper exhaust valve of special adaptor, close upper exhaust valve of special adaptor, and continue to increase pressure until the pressure specified in 5.16.keep pressure for 30 seconds to observe and measure its pressure and performance;
e) After decompression, conduct sealing test as per 7.2.9, and observe

pressure cooker if there is any water drop and air leakage.

7.2.15
Decompression pressure test
a) Test it as per a), b), c) in 7.2.11;
b) In test, pressure cooker shall be placed in protection cover;
c) When decompression device exhausts, cut off power supply, and read out the max. pressure value on pressure gauge before decompression;
d) Count time since decompression device starts to exhaust, and observe pressure value on pressure gauge. Within 60 seconds, the value is not allowed to exceed 20 kPa, and the value for pressing type pressure cooker can't exceed 3.5 times of the max. nominal working pressure;
e) In the process of test, it shall be in accordance with requirement 5.17.3;
f) If pressure value on pressure gauge reaches the max. decompression pressure and no exhaust is available, it shall stop the test.

7.2.16
Compound bottom test

7.2.16.1
Measure thickness of compound layer by bottom gaugemeter. The measuring point is located at circumference of one second diameter of outer bottom, and measurement is evenly located at four points obtaining average value.

7.2.16.2
Under room temperature, place sample on platform to visually observe and hand-sense contact circumstances between sample and platform. If it is not protruding, measure its inner concave depth by caliper and measurement point is within 10 mm from cooker center. If there are punched protruding and concave marks on bottom, measure the shortest point between mark side and cooker center.

7.2.16.3
Test it as per a), b), c), d) in 7.2.11 and repeat it for 10 times. After cooling down to room temperature, place sample to platform to visually observe and hand-sense contact circumstances between sample and platform.

7.2.16.4
Place sample in thermostat with constant temperature 260^{o} C ± 10^{o} C for 5 minutes, and then take out sample to immerse it in water with room temperature for cooling. Visually observe if there is any crack and repeat it for 25 times. After cooling down to room temperature, place it on platform to visually observe and hand-sense contact circumstances between sample and platform.

7.2.17
Destructible pressure test (except for pressing type)
a) Install pressure gauge with class 1.6, 0 Mpa ~ 1 Mpa at Pressure control device hole on lid by special adaptor of pressure gauge, and open upper exhaust valve of special adaptor;
b) Connect water pipe of test pressure pump and Safety device hole on lid by

special adaptor. Make other safety security device unable to work by auxiliary tools;
c) Fill cooker with full water and cover lid so as to make upper and lower handles in full overlapped status;
d) Increase pressure by test pressure pump and exhaust air in cooker. When upper exhaust valve of special adaptor overflows water, close upper exhaust valve of special adaptor, and continue to increase pressure (water flowing 1 L/min ~ 1.6 L/min);
e) When water overflows from cooker, pressure value read out from pressure gauge is destructible pressure;
f) If pressure cooker does not reach 500 kPa in test, situation occurs that seal ring doesn't seal. It is advisable to conduct the test by special seal ring provided by manufacturer.

7.2.18
Steel assembly test
a) Conduct 6 hour test as per procedure and test condition specified in QB/T3826;
b) After completion of test, differentiate as per "Easy 10 - grade Class" in QB/T 3832-1999

7.2.19
Cooking resistance test on plastic assembly
a) Clean sample by neutral detergent;
b) Put sample into cooker with normal temperature water for immerse. With lid opening, place it on electric oven with 2 kW for heating. Count time when water begins to boil, and stop heating after 30 minutes;
c) Take out sample and then immediately put it into normal temperature water. After cooling down, take out sample and observe its result.

7.2.20
Hygiene requirement test
a) Test the product as per GB/T 5009.72 and GB/T 11681;
b) Test rubber pieces and seal rings as per GB 4806.1;

7.2.21
Seal ring test

7.2.21.1
Acid resistance test
a) Obtain 4 cm—5 cm for fully new seal ring, and measure volume of sample by graduated flask with graduation 100 mL;
b) Compound mixed liquid by acetic acid with 4% quality percentage strength and distilled water according to 3:1 volume ratio;
c) Immerse sample in mixed liquid to boil for 72 hours. In the process of test, keep test liquid capacity as 200 mL ±20 mL by the same strength mixed liquid;
d) Take out sample for cooling down, and then clean and dry it;
e) Measure the volume change of sample by the graduated flask.

7.2.21.2
Oil resistance test
a) Obtain 3 g ~ 6 g for fully new seal ring;
b) Immerse it in bean cooking oil (salad oil) with 100^{o} C temperature for 72 hours;
c) Take out sample for cooling down, and then clean and dry it;
d) Measure quality increase of the sample.

8. Mark, Label and Instruction Manual

8.1
Mark
8.1.1
The permanent mark on main body of pressure cooker shall be as follows:
a) Trade mark;
b) Product mark;
c) Date of manufacture;
d) Enterpriser's name (allowed to manufacture it on handle)

8.1.2
Trademark of pressure cooker manufacturer (or factory name) and specification on seal ring of pressure cooker;

8.1.3
Package mark

8.1.3.1
Marks on package box shall be as follows:
a) Trademark;
b) Product name and specification;
c) Product mark;
d) Implementation standard number;
e) Manufacture permit number for industrial product;
f) Enterpriser's name, manufacturer's address and zip code.

8.1.3.2
Marks on package box shall be as follows. Pictorial mark for storage and transportation shall be in accordance with stipulations in GB/T 191, and mark for receiving or delivering goods shall be in accordance with stipulations in GB/T 6388.
a) Trademark;
b) Product name and specification;
c) Product mark;
d) Implementation standard number and name;
e) Manufacture permit number for industrial product;
f) Enterpriser's name, manufacturer's address and zip code;
g) Date of ex-factory;
h) Quantity;
i) Net weight, gross weight, volume (length X width X height);
j) Mark of avoiding moisture, in-up-direction, and handling with care.

8.2
Label
Passing certificate shall include the followings:
a) Trademark;
b) Passing certificate (character sample);
c) Inspector (signature or code);
d) Manufacture date;
e) Manufacturer's name.

8.3
Instruction manual
Instruction manual shall include the following:
a) Carefully read instruction manual before use;
b) Warning words are used to indicate the pressure cooker for family use;
c) Preparatory work before use;
d) Operation direction;
e) It shall be clearly written with regard to inspection and cleaning methods, and precaution in safe use and installation;
f) When child is access to pressure cooker, close attention shall be given in using pressure cooker;
g) Warning marks or warning words are used for improper use of pressure cooker which might cause injury;
h) It shall be noted for the max. volume of expansion food and food which is easy to block;
i) The device that influences safety performance can't be altered at random. When safety device is unable to work or actuate, it is not allowed to continue use of pressure cooker. The pressure cooker shall be sent to designated department for inspection, and it can be used again only after passing inspection;
j) Standard number that the product implements;
k) Manufacture permit number for industrial product;
l) Manufacturer's name, address, zip code and contact telephone number.

9. Package, Transportation and Storage

9.1
Package

9.1.1
After wrapping body and lid with neutral wrapping material, put them into package box of corrugated paper specified in GB/T 6544, and enclose the box with instruction manual, passing certificate and packing list.

9.1.2
According to specification, put wrapped product into paper box specified in GB/T 6543.

9.1.3
Fasten package box by baling strap.

9.2
Transportation

9.2.1
Handle them with care in transportation. It is forbidden to throw, turn and roll, and trample them.
9.2.2
It is cautious to avoid moisture, extrusion and rains in transportation.

9.2.3
It is forbidden to transport together with corrosive goods.

9.3
Storage

9.3.1
It shall keep good ventilation in storage, and relative moisture can’t be greater than 85%.

9.3.2
Products shall be kept above 200 mm from the wall, and above 100 mm from the ground. It is not allowed to simultaneously store products with corrosive goods.

Annex A
(Informative)

Structure Type of Pressure cooker

A.1
Structure type of pressure cooker
In accordance with structure of pressure cooker, pressure cooker can be classified into pressure cookers with turning type, falling type, pressing type and other structure.

A.1.1
Turning type pressure cooker
Turning type pressure cooker is expressed in product mark by English alphabet A. Its structure type and names are shown as Figure A.1.
Pressure control device
Safety device
Lid
Body

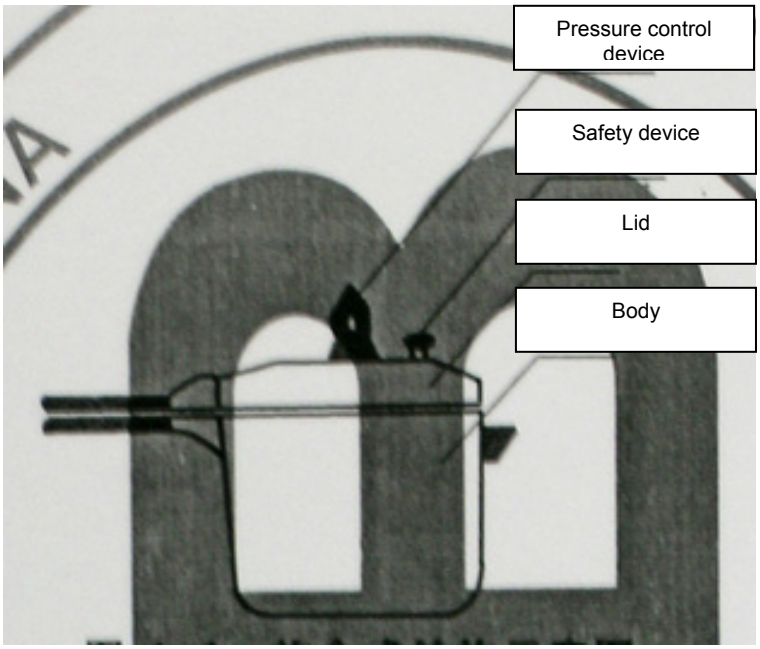


Figure A.1 Turning Type Structure Figure

A.1.2
Falling type pressure cooker
Falling type pressure cooker is expressed in product mark by English alphabet B. Its structure type and names are shown as Figure A.2.
Pressure regulating device
Lid
Body

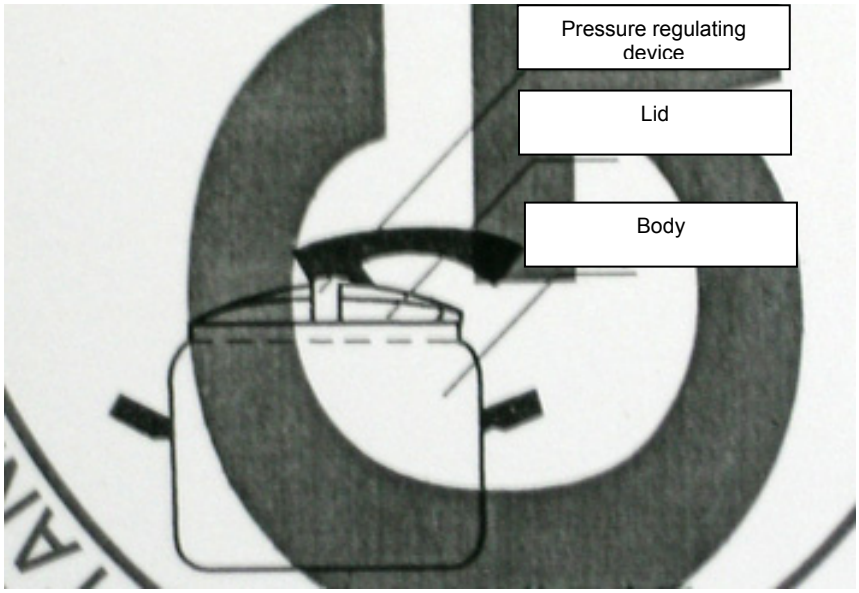


Figure A.2 Falling Type Structure Figure

A.1.3

Pressing type pressure cooker

Pressing type pressure cooker is expressed in product mark by English alphabet C. Its structure type and names are shown as Figure A.3.

Pressure regulating device

Lid

Body

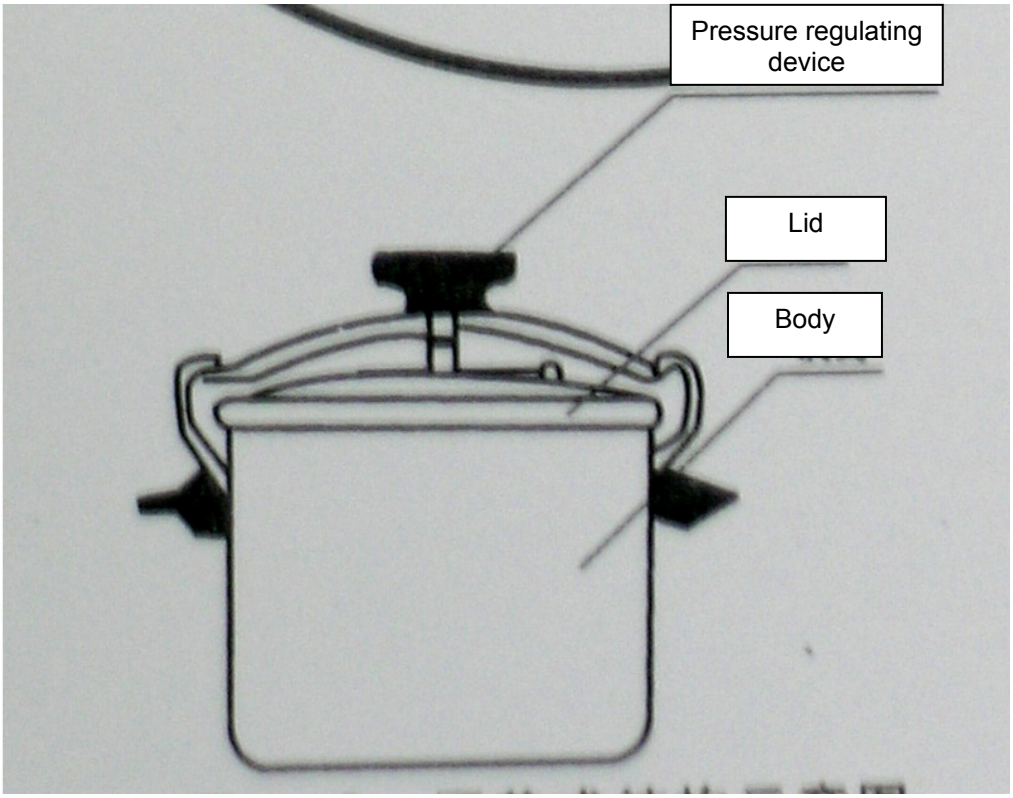


Figure A.3 Pressing Type Structure Figure

A.1.4

The other structure pressure cooker

The other structure pressure cooker, which is in accordance with requirement of this standard, is expressed in product mark by English alphabet D. Its structure shall be approved by National Daily Hardware Standardized Center.