

ICS 83.160.01

CCS G 41



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 9766.3-2016

**Test method for tyre valves -- Part 3: Test methods for snap-in
valves**

(English Translation)

Issued on: February 24, 2016

Implemented on: January 1, 2017

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine**

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Foreword

GB/T 9766 Test Method for Tyre Valves can be divided into the following 7 parts.

- Part 1. Test Methods for Clamp-In Valves;
- Part 2. Test Methods for Rubber Base Seat Valves;
- Part 3. Test Methods for Snap-In Valves;
- Part 4. Test Methods for Clamp-In Tubeless Valves;
- Part 5. Test Methods for Tyre Valves for Large Core Chamber;
- Part 6. Test Methods for Core;
- Part 7. Test Methods for Components.

This Part belongs to Part 3 of GB/T 9766.

This Part was drafted as per the rules specified in GB/T 1.1-2009.

This Part replaced GB/T 9766.3-2008 Test Method for Tyre Valves - Part 3. Snap-In Valves - Test Methods; compared with GB/T 9766.3-2008, this Part has the major technical changes as follows.

- Increase, in the Foreword, "Part 7. Test Methods for Components" (see Foreword);
- Modify the scope (see Chapter 1 of this Edition; Chapter 1 of 2008 Edition);
- Delete terms "test valves" and "aging valves" (see 3.1, 3.2 of 2008 Edition);
- Modify pressure gauge accuracy grade (see 4.4 of this Edition; 4.4 of 2008

Edition);

--- Modify the description of test equipment in 5.2 (see 5.2 of this Edition; 5.2 of

2008 Edition);

--- Increase the test hole specification in nominal size of $\Phi 8.8$ (see Table 1);

--- Increase the provision on the reading time of rubber hardness test (see 6.1);

--- Modify the core mounting torque (see 6.3.1 of this Edition; 6.3.1 of 2008 Edition);

--- Delete the seal test of seal cap (see 6.4 of 2008 Edition);

--- Increase the provisions on bending degree of seal test on CQ07C, CQ08C valves

Test Method for Tyre Valves -

Part 3. Test Methods for Snap-in Valves

1 Scope

This Part of GB/T 9766 specifies the terms and definitions, test equipment, apparatus, test device, and test procedures of snap-in valve (hereinafter referred to as "valve").

This Part is applicable to the tubeless tyre used valve test for the hand cart, motorcycle, car, light truck, and truck.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB 1796.3 Tyre Valves - Part 3. Snap-In Valves (GB 1796.3-2008, ISO 9413.

1998, ISO 14960.2004, NEQ)

GB 1796.6 Tyre Valves - Part 6. Cores (GB 1796.6-2008, ISO 9413.1998, NEQ)

GB/T 12839 Terms and Definitions of Tyre Valves (GB/T 12839-2012, ISO 3877-2.1997, NEQ)

3 Terms and Definitions

The terms and definitions stipulated in GB/T 12839 are applicable to this document.

4.1 Tensile tester. load 0N~2000N, the relative change value of indicating value is 1%.

4.2 High temperature chamber. the temperature inside the chamber can reach 200°C

above, the temperature fluctuation is $\pm 2^{\circ}\text{C}$.

2 - pressure gauge.

Figure 5

6.4.2.1.2 Place the installed valve at $(-40\pm 3)^{\circ}\text{C}$ for at least 24h, so that ensure the sealing area is within the test temperature.

6.4.2.1.3 At the constant pressure of $(180\pm 15)\text{kPa}$, immerse the installed valve into

$(-40\pm 3)^{\circ}\text{C}$ ethanol; the valve mouth shall be upward, the distance between valve rim sealing part and the liquid surface shall be no greater than 100mm.

6.4.2.1.4 The valve immersed into the liquid shall be bent for $25^{\circ}\pm 3^{\circ}$ against the valve

installing hole axis (CQ07C, CQ08C valves shall not be bent); rotate the valve around the installing hole axis evenly for a turn within 15s~45s, and exert no torque to the valve.

6.4.2.1.5 Repeat 6.4.2.1.3~6.4.2.1.4 with interval for at least 0.5h once, totally 5 times.

6.4.2.2 Qualification judgment

If the leakage rate is less than $0.2\text{cm}^3/\text{min}$, or before, in the middle, and after rotating and bending the valve, there is no bubbles on the rim sealing place within 60s, then the valve is judged as qualified.

NOTE: the attached gas during the installation period shall not be regarded as leakage.

6.4.3.1.2 Place the installed valve into (100 ± 3) °C heat-circulating air for 48h to simulate the aging condition.

6.4.3.1.3 At the pressure of (600 ± 15) kPa, immerse the installed valve into (66 ± 3) °C

clean water; the valve mouth shall be upward, the distance between valve rim sealing part and the liquid surface shall be no greater than 100mm.

6.4.3.1.4 The valve immersed into the liquid shall be bent for $25^\circ\pm3^\circ$ against the valve

installing hole axis (CQ07C, CQ08C valves shall bent $10^\circ\pm3^\circ$); rotate the valve around the installing hole axis evenly for a turn within 15s~45s, and exert no torque to the valve.

6.4.3.1.6 Repeat 6.4.3.1.3~6.4.3.1.5 with interval at least 0.5h once, totally 5 times; the final bending and rotating shall be finished at the 72nd h in the test period.

6.4.3.2 Qualification judgment

If the leakage rate is less than 0.2cm³/min, or before, in the middle, and after rotating and bending the valve, there is no bubbles on the rim sealing place within 60s, then the valve is judged as qualified.

NOTE: the attached gas during the installation period shall not be regarded as leakage.

6.5.1 Pull-in force

Take water as the lubricant; install the immersed valve onto the tension tester; pull the valve at the speed of (150 ± 15) mm/min; stop till the marking ring of the valve body is totally passed through the test device plate hole stipulated in 5.2; during this period, the maximum tension is regarded as the pull-in force (see Figure 6).

6.5.2 Qualification judgment

The pull-in force shall conform to the provisions of GB 1796.3; if valve is damaged during the test, it shall be judged as disqualified.