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# HG

Chemical Industry Standard of the People's Republic  
of China

HG/T 2373-2017

Replace HG/T 2373-2011

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## Two pieces glass-lined steel vessels for storage

## 搪玻璃开式贮存容器

(English Translation)

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## Foreword

SAC/TC 72 is in charge of this English translation. In case of any doubt about the contents of English translation, the Chinese original shall prevail.

This Standard is drafted in accordance with the rules given in GB/T 1.1—2009.

This Standard replaces HG/T 2373-2011 *Two pieces glass-lined steel vessels for storage in whole*.

In addition to some editing, the following technical revisions have been made with respect to the HG/T 2373-2011:

- Two specifications of 4000 L and 5000 L have been cancelled;
- Deleted the former standard's Subclause 5.3: "For glass-lined liquid level meters with a length greater than 1500mm, a fulcrum needs to be added in the middle of the level meter. The fulcrum is welded to the cylinder before sintering"; Subclause 5.4 "Before sintering the container, weld the support base connector first, and install the support base after the sintering is completed";
- For containers from 50L to 1,000L, add an oval upper head structure;
- Revised individual dimensions.

This Standard was proposed by China Petroleum and Chemical Industry Association.

This Standard was prepared by SAC/TC 72 National Technical Committee for Glass-lined Equipment Standardization.

The previous editions of this standard are as follow (s) :

- HG 5-252-1965, HG 5-252-1969, HG 5-252-1979, HG/T 2373—1992, HG/T 2373—2004 and HG/T 2373—2011.

# Two pieces glass-lined steel vessels for storage

## 1 Scope

This standard specifies the type, basic parameters, main dimension, requirements, nameplate, factory documents, packaging, and transportation of two pieces glass-lined steel vessels for storage.

This standard applies to two pieces glass-lined steel vessels for storage with a design pressure less than or equal to 0.6 MPa, a design temperature higher than -20 °C to 200 °C and a nominal volume of 50L to 5,000L.

## 2 Normative references

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

GB 25025 Specification of glass-lined equipment for industry

GB/T 25198 Heads for pressure vessels

HG/T 2049 Glass-lined equipment—H flange

HG/T 2050 Gaskets for glass-lined steel vessel

HG/T 2053 Glass-lined equipment—Manhole flange

HG/T 2054 Clamps for glass-lined vessels

HG/T 2055.1 Manhole for glass-lined steel vessel

HG/T 2105 Loose flange for glass-lined steel vessel

HG/T 2143 Nozzles for glass-lined steel vessel

HG/T 2145.1 Handhole for glass-lined vessel

HG/T 2433 Liquid level gauge for glass-lined vessel

JB/T 4712.4 Vessel supports —Part4: Bracket support

## 3 Terms and definitions

For the purpose of this Standard, the following terms and definitions apply.

### 3.1 Two pieces glass-lined steel vessels for storage

A glass-lined storage container with a flange equal to the diameter of the cylinder

## 4 Type, basic parameters and main dimension

4.1 The type, basic parameters and main dimension of the two pieces glass-lined steel vessels for storage, see Figure 1, Figure 2, Figure 3 and Table 1, Table 2 and Table 3.

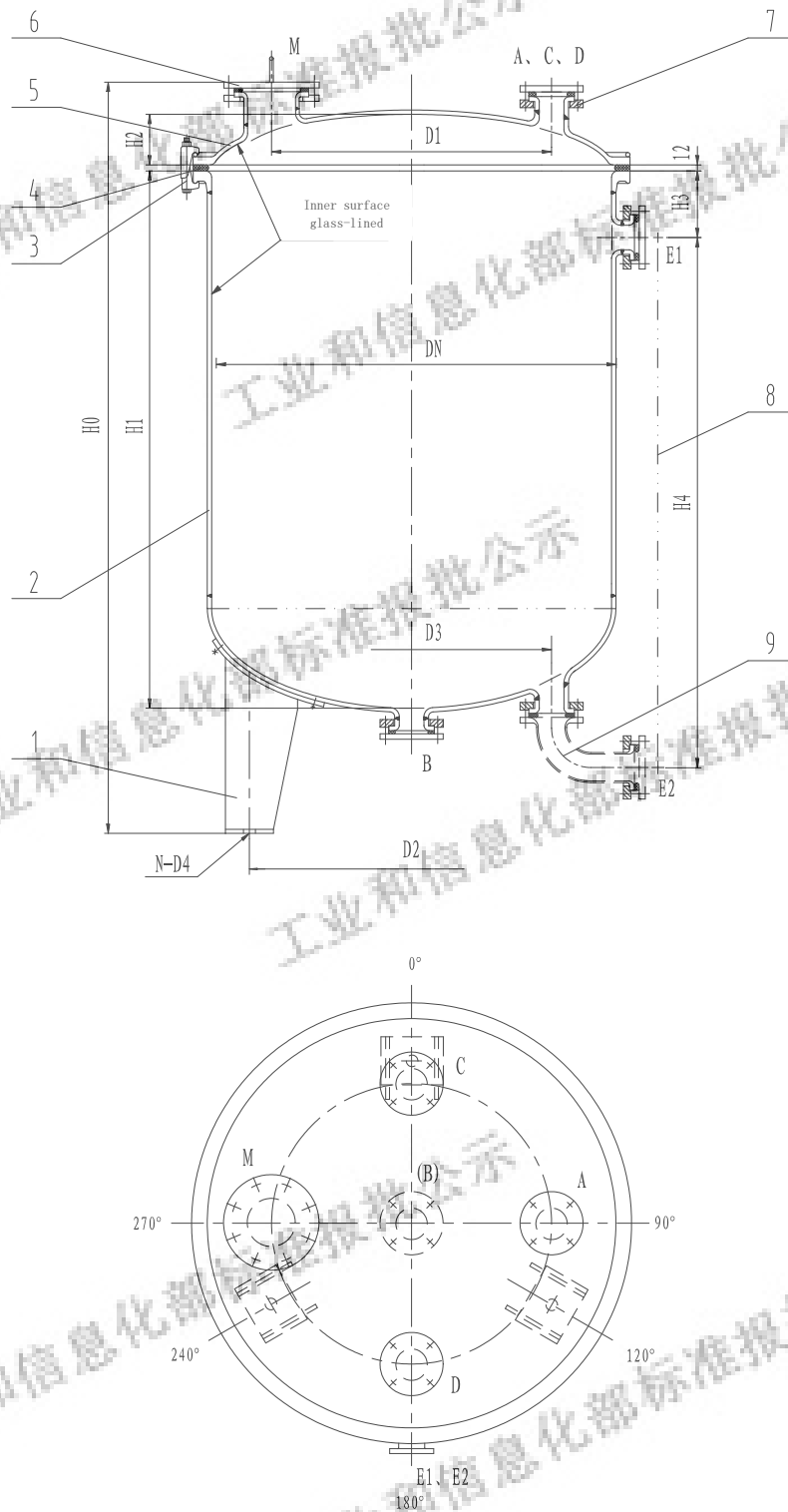


Fig.1 50L - 1000L spherical crown-shaped head two pieces storage container

Units: mm

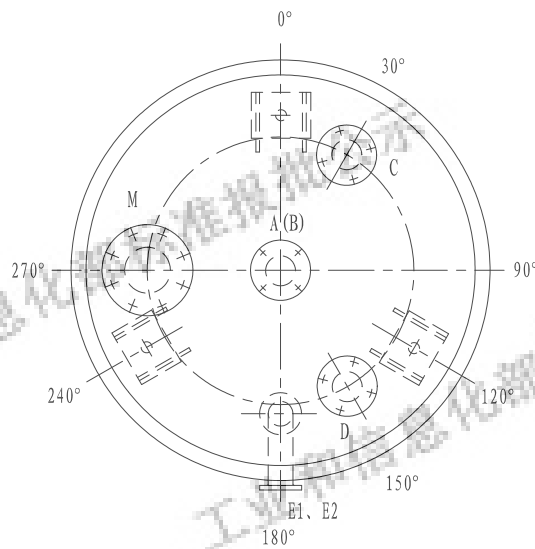
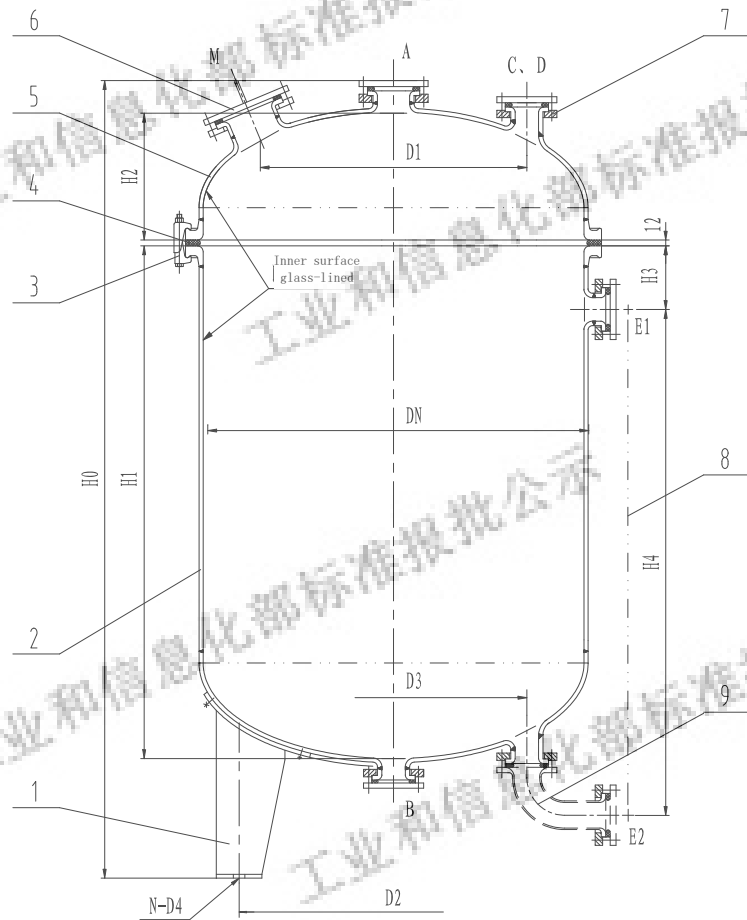


Fig.2 50L - 1000L oval head two pieces storage container

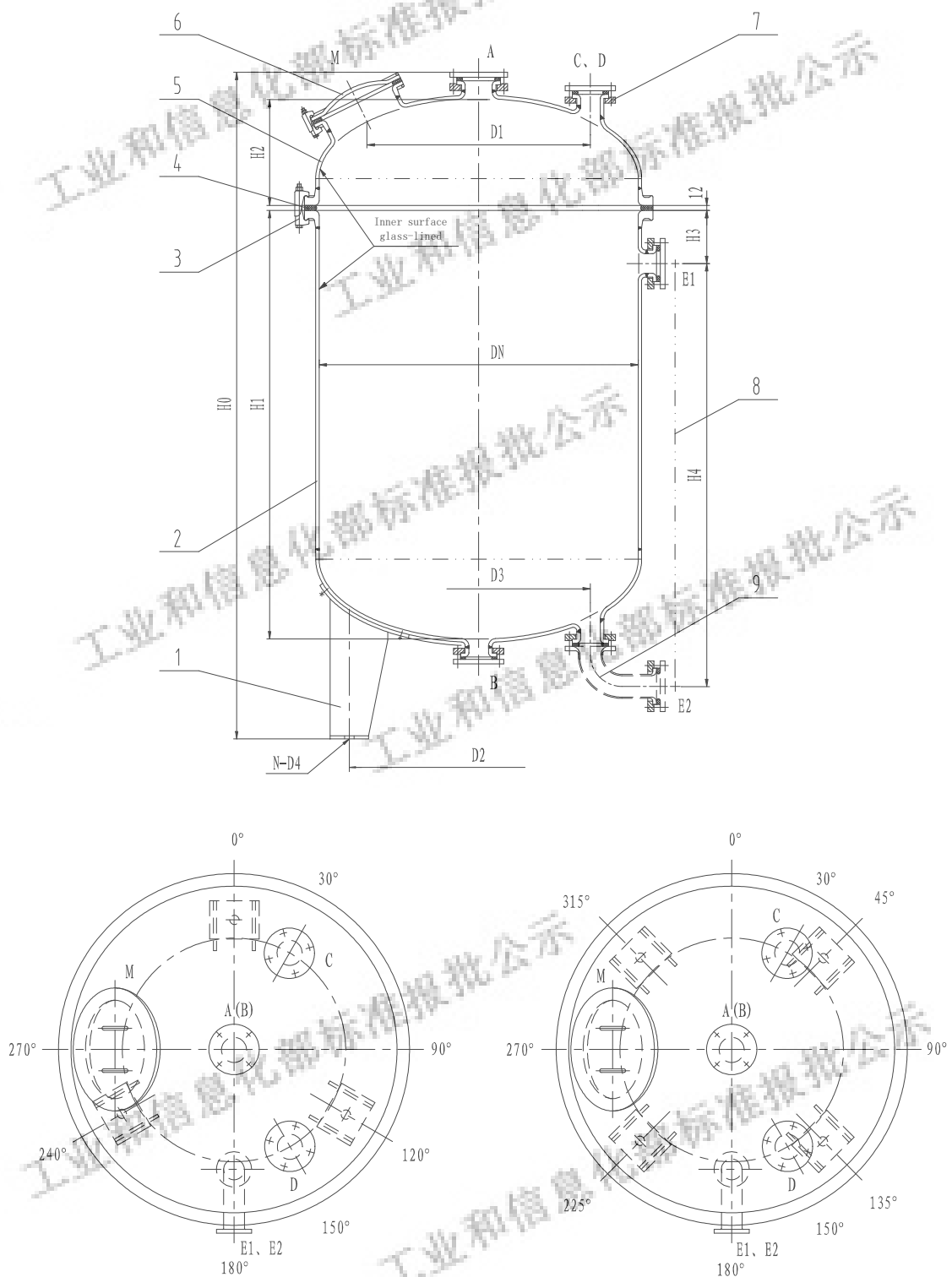


Fig 3 1 250L - 3 000L two pieces storage container

Table1. Details

Part number	Standard	Name	Quantity	Material	Remark
1	JB/T 4712.4	Support	3~4	Assembly	—
2	—	Tank	1	As specified in GB 25025	Glass lined
3	HG/T 2054	Clamp	See table 3	Assembly	—
4	HG/T 2050	Gasket	1	Soft gasket	As specified in working condition
5	—	Can lid	1	As specified in GB 25025	Glass lined
6	HG/T 2145.1 (HG/T 2055.1)	Handhole (manhole)	1	As specified in GB 25025	Manholes shall be provided in storage containers with a DN $\geq$ 1200mm
7	HG/T 2105	Loose flange	—	Assembly	—
8	HG/T 2433	Liquid level gauge for glass-lined	1	Assembly	—
9	—	90° elbow	4	As specified in GB 25025	—

The head for pressure vessels shall be in conformity with the EHA ellipsoidal head type in GB/T 25198. The H flange for containers shall be in conformity with HG/T 2049. The manhole flange shall be in conformity with the HG/T 2053. The nozzle of the container shall be in conformity with the HG/T 2143.

Table2. Nozzle chart

Nominal volume V N/L	Actual volume V/L	Diameter D N/mm	Nozzle nominal diameter D N/mm						Liquid Level gauge reference length mm
			A	B	C	D	E1、E2	M	
50	58.6	400	65	65	65	65	65	100	—
100	110	500	65	65	65	65	65	100	600
200	218	600	65	65	65	65	65	125	800
300	324	700	80	80	65	65	65	125	900
400	469	800	80	80	80	65	65	125	1 000
500	590	800	80	80	80	65	65	150	1 200
800	877	1 000	80	80	80	80	65	150	1 200
1 000	1 112	1 000	80	80	80	80	65	150	1 500
1 250	1 357	1 200	80	80	80	80	65	400×300	1 300
1 500	1 640	1 200	100	100	80	80	65	400×300	1 500
2 000	2 179	1 300	100	100	80	80	65	400×300	1 700
3 000	3 153	1 450	125	125	100	100	65	400×300	2 000

Table3. Dimension chart

Nominal volume VN / L	Dimension mm											Clamp specifications and quantity	
	H <sub>0</sub>		H <sub>1</sub>	H <sub>2</sub>		H <sub>3</sub>	H <sub>4</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	n-D <sub>4</sub>	design pressure /MPa	
	fig 1	fig 2		fig 1	fig 2							0.25	0.6
50	900	1 025	500	50	175	-	-	240	300	-	3-Φ18	20-BM 12	20-AM 12
100	1 000	1 135	600	65	200	170	600	300	380	330	3-Φ18	24-BM 12	24-AM 12
200	1 225	1 380	820	80	235	170	800	360	450	430	3-Φ18	28-BM 12	36-AM 12
300	1 315	1 480	900	95	260	170	900	420	530	530	3-Φ18	36-BM 12	32-AM 16
400	1 465	1 655	1 000	105	295	170	1 000	480	600	630	3-Φ24	40-BM 12	36-AM 16
500	1 705	1 895	1 240	105	295	170	1 200	480	600	730	3-Φ24	40-BM 12	36-AM 16
800	1 685	1 845	1 200	135	345	180	1 200	600	750	608	3-Φ24	40-BM 16	44-AM 16
1 000	1 985	2 145	1 500	135	345	180	1 500	600	750	608	3-Φ24	40-BM 16	44-AM 16
1 250	2 105		1 330	395		180	1 300	720	900	808	3-Φ24	52-BM 16	56-AM 16
1 500	2 355		1 550	395		180	1 500	720	900	808	3-Φ24	52-BM 16	56-AM 16
2 000	2 575		1 750	420		180	1 700	780	1 000	908	3-Φ24	52-BM 16	52-AM 20
3 000	2 916		2 030	468		200	2 000	870	1 100	1 058	4-Φ30	60-BM 16	60-AM 20

#### 4.2. Tags and their examples

Take the two pieces glass-lined steel vessels for storage that conforms to HG / T 2373 and with the design pressure of 0.6 MPa, the nominal volume of 2 000 L and the nominal diameter of 1 300 mm as an example, It is marked as:

HG/T 2373-K-0.6-2000-1300 Two pieces glass-lined steel vessels for storage

The meaning of each element in the mark is as follows:

K — code of container structure type;

0.6 — The design pressure is 0.6MPa;

2000—the nominal volume is 2 000L;

1300 — Nominal diameter is 1 300mm.

## 5 Requirement

5.1 The design , materials, manufacture, inspection and acceptance of the two piece glass-lined steel vessels for storage should conform to GB 25025.



5.2 The nozzles connected to the glass-lined liquid level gauge shall be on the same vertical plane, and the deviation of the vertical centerline is  $\pm 1.0\text{mm}$ .

5.3 The selection of the liquid level gauge can give priority to the use of new-type liquid level gauges and be in conformity with the requirements of relevant standards.

5.4 The container shall be provided with lifting lugs. Their number and position should meet the lifting and installation requirements.

6 Nameplate, factory documents, packaging and transportation

6.1 The nameplate, factory documents, packaging and transportation of the two pieces glass-lined steel vessels for storage should conform to GB 25025.

6.2 Collisions are prohibited when moving and transporting the two pieces glass-lined steel vessels for storage.

6.3 The exposed glass-lined surface of the two pieces glass-lined steel vessels for storage must be strictly protected.

6.4 The container shall be properly stored before delivery to prevent the erosion of rain and snow and corrosive media and generally should not be stored in open air.