

Container glass from CHINA for the pharmaceutical industry

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Over the years, China has emerged as one of the largest producers and suppliers of pharmaceutical products for both the domestic and export markets - offering container glass producers for the segment a host of opportunities. The sizable population, increasing purchasing power, rapidly increasing urbanisation and gradually ageing population all include factors which now ranks the country as the second largest pharmaceutical market after the US, which is the current global leader.

In CHINA, pharma is expected to bring huge growth potential for container glass producers in the near future. In this issue of Glass Machinery Plants & Accessories we present an overview of the country's container glass industry for the segment.



COMPANY PROFILE

A DOMINANT FORCE IN THE GLOBAL PHARMACEUTICAL GLASS INDUSTRY

To varying degrees the above-mentioned factors have all enabled the Chinese pharmaceutical industry to post high growth rates in each of the years following the country's economic liberalisation in 1979.

The number of individuals in China aged above 65 reached 190.6 million in 2020 and is forecasted to arrive at 247.4 million in 2025 and 318.1 million in 2030. Both 'Health China 2030' promulgated in 2016 and '14th Five-Year Plan' promulgated in 2021 emphasized the strategic importance of the healthcare industry in China's development plan - good news for the country's pharmaceutical container glass producers.

In 2021 the world pharmaceutical market was worth USD 1,256.863 billion, estimated at ex-factory prices, with China accounting for 9.4 percent of the total market.

Some important developments in the Chinese and global pharmaceutical industry have provided Chinese producers with huge opportunities. For example, until the mid-1990s, the United States, Europe and Japan produced 90 percent of the world's active pharmaceutical ingredients (API) - all key for antibiotics and many other common medicines, such as pain-killers. That situation began to change as companies, prioritizing efficiency and cost saving over resiliency and security of supply, created extended value chains for medical ingredients and supplies that rendered them extraordinarily dependent on China and India. Today, China provides between 80 percent and 90 percent of the global supply of active ingredients for antibiotics, and China and India are the source of about 75 percent of the APIs and 40 percent of finished medications imported by the United States. China



accounts for 95 percent of US imports of ibuprofen, 91 percent of US imports of hydrocortisone, 70 percent of U.S. imports of acetaminophen, up to 45 percent of US imports of penicillin and 43 percent of US imports of heparin. Currently, China is the world's second-largest pharma market after the US with a projected value of USD 300.9 billion by 2025 and a compound annual rate (CAGR) of over 12 percent. As the domestic market moves from traditional generics to more innovative therapies, it will be crucial for firms to capitalize on the global opportunities for these more targeted offerings. For container glass producers for the pharmaceutical industry it would offer ample opportunities to increase their market share at the expense of plastic packaging. Pharmaceutical packaging has become highly sophisticated over the past few years as quality and safety issues have become extremely important. Various materials are utilized for packaging in combination with more than one material, such as metals, glass, wood, paper or mash, plastic or composite. Container glass accounted for 20.4 percent of all pharmaceutical packaging in China in 2021. Plastic packaging

had the highest share at 43.3 percent, followed by metal and composite packaging at 24.1 percent. Rubber accounted for 9.5 percent, followed by other miscellaneous materials at 2.7 percent.

LEADING PHARMACEUTICAL GLASS PRODUCERS

China has more than 70 container glass producers meeting the demand of pharmaceutical packaging for the domestic market and exports.

SHANDONG PHARMACEUTICAL GLASS

Shandong Pharmaceutical Glass Company is the largest pharmaceutical container glass producer in China. Established in 1970, it has five large production bases in the country. The company's products include moulded pharmaceutical glass bottles, ampoules, phials, brown bottles, infusion bottles, glass tubes, daily-use cosmetic bottles and food bottles. Shandong Glass produces more than 500 different types of pharmaceutical glass containers and exports a large share of its total production to Asian and African countries. The installed capacity of the company can produce about 9 billion container glass pieces.

GERRESHEIMER SHUANGFENG

Gerresheimer Shuangfeng is a high-level pharmaceutical packaging company with investments by both Shuangfeng Glass and Gerresheimer Group GmbH. The former is a preeminent pharmaceutical packaging company in China, the latter a leading pharmaceutical packaging supplier. The JV has two companies located in Zhenjiang and Danyang, namely Shuangfeng Pharmaceutical Packaging Co., Ltd. (Zhenjiang) and Shuangfeng Glass Co., Ltd. (Danyang). It has three production sites - two in Danyang and one in Zhenjiang.

NIPRO

Japanese pharma glass producer Nipro is among the leading pharmaceutical glass producers in China. It produces glass tubings, vials and ampoules for the Chinese pharmaceutical industry. The company operates a total of four manufacturing facilities in China. Puyang City Changda Glass Co. in Henan province, Anyang Nipro Changda Pharmaceutical Packaging Co. in Henan province, Jilin Nipro Jiaheng Pharmaceutical Packaging Co. in Jilin province, and Chengdu Pingyuan Nipro Pharmaceutical Packaging Co. in Sichuan province.

ANHUI HUAXIN PHARMACEUTICAL GLASS COMPANY

Anhui Huaxin pharmaceutical glass Products Co. Ltd (formerly known as Lai 'an Medical Glass General Factory), is professionally engaged in pharmaceutical packaging, R&D, production and sales. The company is a member of the Chinese Pharmaceutical Materials Association. It has two production factories with three companies, namely Anhui Huaxin Pharmaceutical Glass Products Co. Ltd, Anhui Huarong Pharmaceutical Packaging Co. Ltd, Anhui Huaxin Import and Export Co. Ltd.

SGD PHARMA CHINA

SGD Pharma operates a pharmaceutical glass plant in Zhanjiang with a capacity to produce 1.2 million Type II & III clear moulded glass vials daily for the parenteral market and for health care beauty products. Spread over an area of 85,000 square metres, the plant includes a glass furnace, 6 production lines, an ISO 8 clean room of 2,000 square metres, a resorting room and a customization workshop.

SCHOTT CHINA

German speciality glass producer SCHOTT operates four pharma glass production facilities



ties in China. SCHOTT entered the Chinese pharma glass market in 2008 by establishing a manufacturing facility at Suzhou in Jiangsu province. Suzhou plant produces glass vials and ampoules with an annual capacity of more than 100 million vials and ampoules.

In 2012 Scott entered into a JV with an existing pharma glass producer Xinkang Pharmaceutical Packaging Company Limited to expand its pharmaceutical glass production in the country.

In 2021, Schott officially opened a new factory in Jinyun, China. The production, which went into operation at the end of 2020, is manufacturing high-quality borosilicate glass tubing - the base material highly sought after to produce vials and syringes for COVID-19 vaccines among other items. With an initial capacity of 20,000 tons of glass and room for further expansion, the plant is functioning as a production and supply hub in the region. SCHOTT has invested EUR 60M in the new plant as part of a USD 1 billion investment to expand its global pharmaceutical business. ■



COUNTRY STUDY

| Company | Installed Capacity | Location |
|---|---|---|
| Shandong Pharmaceutical Glass Company | 9 billion pieces per year | Zibo city, Shandong |
| Cangzhou Four Star Glass Company | 100,000 TPA of neutral borosilicate glass tubes and 1.2 billion pieces of vials and ampoules. | Zhifangtou Industrial Park, Cangzhou county |
| Cangzhou Xingchen Glass Company | 1.6 billion pieces of bottles and vials | Cangzhou City, Hebei province |
| Chongqing Zhengchuan Pharmaceutical Company Limited | 7 billion pieces of glass vials and ampoules per year | Beibei district, Chongqing |
| Anhui Huaxin Pharmaceutical Glass Products Company | 600 million pieces of bottles and vials per year. | Chuzhou City, Anhui province |
| Dezhou Jinghua Pharmaceutical Glass Company | 2.8 billion molded schering bottles in 5- 100 ml sizes | Dezhou Economic Development Zone, Shandong |
| Famacy Glass Company Limited | 1.2 million glass containers | Jiangsu and Sichuan provinces |
| Jiangsu Chaohua Glassworks Company Limited | 40,000 TPA of vials and ampoules | Danyang, Jiangsu |
| Jiangsu Jiajia Pharmaceutical Glass Company | 32,000 TPA of vials and ampoules | Jiangsu |
| Schott China | 2.4 billion pieces of vials and ampoules. | Suzhou and Jinyun |
| Jiangsu Tian Ning Glass Technology Company | 700 million vials and ampoules | Danyang, Jiangsu |
| Jinan C-Flying Industrial Group | 12,000 TPA of pharmaceutical neutral glass tube and 800 million pieces of tubular vial, moulded glass vial and ampoule. | Jinan, Shandong |
| Jinan GT Industrial Company (GT Glass) | 36,000 TPA of pharmaceutical glass tubes in clear and coloured glass. | Jinan, Shandong |
| Jotop Glass | 500 million pieces of moulded glass bottles and vials. | Jinan, Shandong |
| Ningbo Zhengli Pharmaceutical Packaging Company Ltd | 600 million pieces of vials range from 1 ml to 30ml, and prefilled syringe and cartridges | Ningbo City, Zhejiang Province |



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| Triumph Junheng Hebei Pharmaceutical Glass Company | 30,000 tonnes per annum of neutral glass tubes | Henden city, Hebei |
| Ompi Pharmaceutical Packaging Technology (China) Company | 300 million pieces of vials and ampoules | Zhenjiagang |
| Puyang Lumeng Glass Company Limited | 25,000 TPA of glass Tubings, 3 billion pieces of vial & ampoules | Jinan, Shandong |
| Qingdao Yutai Pharmaceutical Packaging Company | 800 million pieces of vials, ampoules and bottles. | Jiazhou City, Qingdao |
| Zibo Rongdian Glass Company Limited | 600 million pieces of pharmaceutical bottles and vials per annum | Yiyuan, Shandong |
| SGD Pharma | 1.2 million Type II & III flint molded glass vials per day. | Zhnanjiang city, Guangdong |
| Shandong Linuo Technical Glass | | Jinan, Shandong |
| Dezhou Jingfeng Glass | 180,000 TPA of glass bottles and vials | Shandong |
| Shandong Hon Hai Industrial Glass Company | 100,000 tonnes of borosilicate glass tubes, 1 billion pieces of vials and ampoules | Jinan, Shandong |
| Shanxi Hongjin Medical Glass Company | 800 million pieces of vials and ampoules | Yuncheng, Shanxi |
| Jiangsu Huayue Pharmaceutical Glass Company | 500 million vials per annum | Fangxianzhen, Jiangsu |
| Wuhu Changjiang Glass Produce Company Limited | 2 billion pieces of moulded bottles, vials and ampoules | Wuhu, Anhui |
| Nipro Corporation | - | Henan, Jilin and Sichuan provinces |

Pharmaceutical container glass producers in China