



中国制药装备行业协会

China Association for Pharmaceutical Equipment

# 中国制药装备行业 改革开放

# 30年画册

Album of China Pharmaceutical Equipment Industry  
in the 30 Years of Reform & Opening Up

石 青◎主编



社会科学文献出版社  
SOCIAL SCIENCES ACADEMIC PRESS (CHINA)



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# 序

中国制药装备行业协会投入很大精力搜集有关我国制药装备行业的历史图片资料，并在此基础上编辑出版了《中国制药装备行业改革开放 30 年画册》。我们从书中可以了解我国制药装备行业改革开放 30 年的发展历程以及所取得的成就，并可从中得到不少启示，引发联想和思考，所以是一件很有意义的事。

制药装备是制药行业的硬件武器，制药行业的发展离不开制药装备。制药行业的发展拉动制药装备的发展，反过来，制药装备的发展又可促进制药行业的发展。

回顾 60 年前，我国制药工业完全依靠手工，如压片机是单冲的、用手摇或用脚踩的，其效率可想而知。

中华人民共和国成立后，党和政府十分重视人民群众的防病治病问题，非常关注为人民防病治病服务的医药事业。随着制药行业的发展，我国制药装备行业也从无到有地发展起来。特别是近三十年来，我国制药装备行业有了很大发展，进入了由小到大的发展阶段，其快速发展主要得益于以下因素。

第一，我国制药行业的快速发展，特别是《药品生产质量管理规范》（GMP）的实施，产生了对制药装备的大量需求，有力地拉动了制药装备行业的发展。

第二，实行开放政策，其他行业特别是军工企业的进入为我国制药装备行业增添了新生力量，促进了我国制药装备行业的发展及水平的提高。

第三，统一管理有利于制药装备行业的健康发展。1978 年成立国家医药管理局后，明确了制药装备的统一归口管理，在此基础上，1991 年成立了“中国制药装备行业协会”。

改革开放以来，我国制药装备行业虽然有了很大发展，但也应该清醒地认识到，我们同国际先进水平相比仍存在明显的差距，衷心地希望我国制药装备行业在以下三个方面不断努力，尽快赶上国际先进水平。

第一，要加强自主研发和科技创新，以提高企业的生命力。

第二，要拥有更多的自主知识产权，掌握更多的核心技术，以提高企业的竞争力。

第三，要在精益求精上下大工夫，从设计、加工工艺到售后服务都要精益求精，以培育产品的质量、性能和服务优势。

希望我国制药装备行业加快发展，为实现我国从制药大国向制药强国的转变作出自己的贡献。



2009 年 9 月 16 日

# PREFACE

China Association for Pharmaceutical Equipment (hereinafter referred to as CAPE) made a great effort in collection of material and pictures which could reflect the achievements obtained by China pharmaceutical equipment manufacturers in the 30 Years of Reform & Opening Up, and then compiled *Album of China Pharmaceutical Equipment Industry in the 30 Years of Reform & Opening Up*. This is a significant work. I hope from the Album, we may initiate some thoughts and inspirations to further develop China pharmaceutical equipment industry.

Pharmaceutical equipment is the hardware for pharmaceutical industry, the development of pharmaceutical industry can not make any progress without pharmaceutical equipment. The development of pharmaceutical industry could push forward the development of pharmaceutical equipment, whereas the development of pharmaceutical equipment could improve the development of pharmaceutical industry.

60 years ago, in China medicines were mainly produced by labour, for example, tablet press was single punch type, which required to be turned by hand or by foot stepping. It is not difficult to imagine how slow the speed was.

After The People's Republic of China was founded, the government attached great importance to the matter of disease control and prevention as well as pharmaceutical industry. With the development of pharmaceutical industry, the pharmaceutical equipment industry started to be developed. In the recent 30 years, the pharmaceutical equipment industry has been developing rapidly. The main reasons are as follows.

1. The development of pharmaceutical industry, especially the implementation of *Good Manufacture Practice* (GMP) brought a big demand from pharmaceutical machines, so that the pharmaceutical equipment industry was pushed forward greatly.

2. After the adoption of opening policy, some military undertakings started to transfer certain technologies to civil use, including the use in pharmaceutical equipment industry. As a result, the development of pharmaceutical equipment industry was speeded up and its level was advanced quickly.

3. Unified administration policy was beneficial to the health development of pharmaceutical equipment industry. The establishment of State Pharmaceutical Administration of China in 1978 regulated and unified the management of pharmaceutical equipment industry. In addition, China Association for Pharmaceutical Equipment was established in 1991.

Since the adoption of the Reform & Opening Up Policy, the pharmaceutical equipment industry has been developing greatly, but we still have to aware that there is a big gap comparing the level with world developed countries. In order to reduce the gap, we should work even harder in the following three aspects.

1. To strengthen autonomous R&D and scientific innovation, so as to enhance the vital force of the enterprises.

2. To create more self-owned intellectual properties and to master more kernel technologies, so as to increase competitive power.

3. To always endeavor to do still better from the design, manufacturing technology to the after-sale service, so as to achieve good quality and good performance of products as well as to provide satisfactory services.

Finally, I hope to further speed up the development of our pharmaceutical equipment industry to contribute to the goal of transferring China from a big pharmaceutical country to a powerful pharmaceutical country.

*Qi Moujia*  
Sept.16, 2009

中国制药装备行业  
改革开放三十年

八八藥翁

李曉東



二〇〇九年七月



艰苦创业谋发展  
锐意进取铸辉煌

中国制药装备行业改革开放三十年

余靖



乙丑中秋



滄桑巨變  
舊貌新顏

中國制葯裝各行業改革開放三十年

二〇〇九年十月 同弥



幀幀画影 记录光辉历史  
篇篇雄文 展现宏伟未来。

共勉

石恒

二〇一九年九月



中國制葯裝備行業改革開放三十周年

自主創新  
走向世界

張鶴鏞



己丑年秋月



国家医药管理局

State Pharmaceutical Administration of China





中国制药装备行业协会  
China Association for Pharmaceutical Equipment

全面开展药品生产企业 GMP 认证及中药现代化政策,为我国制药装备企业提供了前所未有的发展机遇。不仅制药装备的制造厂家数量以及产品的品种、规格数量迅速增加,更重要的是产品的技术水平、质量水平以及全面贯彻 GMP 等方面都上了一个新台阶,为我国制药企业贯彻实施 GMP 提供了大量的先进设备。

我国现有制药装备制造企业 800 余家,可生产八大类 3000 多个品种、规格的制药装备产品,代表 20 世纪 90 年代末水平的产品占主导地位,部分产品达到国际同类产品先进水平,年产值超过 150 亿元,我国已成为名副其实的制药装备大国。

随着改革开放政策的深入,政府行政管理职能不断与时俱进,1998 年各工业管理部门全部撤销,新组建的国家药品监督管理局不再具有管理制药装备行业的职能。此后,中国制药装备行业协会根据国家有关法律法规和协会章程,传达并贯彻政府的方针政策,向国家有关部门反映会员单位的愿望和要求,出版刊物,建立网站,组织各种技术交流会、研讨会、培训班,努力开拓国内外药机市场,组织起草产品标准,承担政府委托的任务,为推动我国制药装备行业的发展,为我国制药工业实现现代化以及保障人民身体健康做了大量工作。

中国制药装备行业协会举办的每年两届“全国制药机械博览会”,为企业开拓国内外市场创造了良好平台,至今已举办了 37 届,博览会展览面积达 7 万平方米左右,展品约 8000 台(套),参观人数多达 6 万人次。博览会期间,累计举办国内外技术交流会近 120 次,近 7 万人参与交流。2007 年开始举办“国际制药机械研讨会”,吸引了印度、俄罗斯、巴基斯坦、美国、德国等 35 个国家的大使、参赞以及相关商会、协会、著名企业的代表莅临。

自 1992 年起,我国制药装备已在泰国、印度尼西亚、印度、德国等 15 个国家展出。近年来,我国制药装备产业的实力及产品性价比的优势引起了很多国家药品生产企业、制药装备制造企业及经销商的关注。目前我国制药装备已出口到美国、日本、韩国、印度以及我国香港等近 90 个国家和地区。

三十年来的成就,在中国制药装备发展史上写下了光辉的一页,然而这只是万里长征的第一步,今后的道路更长,任务更艰巨,需要制药装备工业战线上的广大职工继往开来,在争做制药装备强国、向着社会主义市场经济体制目标前进的道路上,谱写更灿烂的篇章!



2009 年 7 月 1 日



# 为建立社会主义市场经济体制的 目标开拓、前进

## 中国制药装备行业改革开放三十年回顾

我国制药装备行业从无到有，从小到大，走过了半个多世纪的发展历程。

从中华人民共和国成立至 1978 年，全国只有制药装备制造厂 27 家，且全部为实力单薄的小厂，只能生产 39 个品种、98 种规格的产品，相当于国际上 20 世纪 40 ~ 50 年代的水平。1978 年国家医药管理总局成立后，对全国制药装备行业实行统一规划管理，但制药装备行业的发展速度远不能满足我国制药工业发展的需要。1985 年以前，产品供不应求的状况严重，压片机、水针灌封机等关键制剂工艺设备的供求比小于 1:2。随着改革开放的不断深化，制药装备行业的发展速度不断加快。“七五”后期，制药装备制造企业增加到 180 家，可生产原料药机械与设备、制剂机械、饮片机械、制药用水设备、药用粉碎机械、药品包装机械、药物检测设备及其他制药机械与设备等八大类 635 个品种、规格的产品，高速压片机、碟片离心机等一批产品达到了国外同类产品水平。

1985 年，随着国家改革开放步伐不断加快，一些军工单位及其他行业企业、地方企业、科研单位的进入，给制药装备行业带来了生机。人才引进、质量管理、新产品的研制与开发等方面，都在较短时间内取得了显著的成绩。

20 世纪 90 年代中期，我国已拥有制药装备制造企业 400 余家，可生产八大类 1100 多个品种、规格的制药装备产品。不仅基本满足了我国制药、保健品、食品等行业的需求，而且还出口到美国、印度、巴基斯坦等 20 多个国家以及我国香港地区。

# Work Out a Way to Fit Socialist Market Economic System

## *Review on China Pharmaceutical Equipment Industry in the 30 Years of Reform & Opening Up*

China pharmaceutical equipment industry has gone through for more than half a century from zero to small and then become bigger and bigger.

Since the founding of PRC to the year of 1978, there were only 27 small pharmaceutical equipment manufacturers all over China, who could only produce about 39 varieties and 98 types of machineries and the level was just close to the world level in 1940s to 1950s. The establishment of State Pharmaceutical Administration of China in 1978 regulated and unified the management of pharmaceutical equipment industry. At that time the pharmaceutical machineries were distributed by plan and the machineries manufactured could not meet medicine producing requirements. Pharmaceutical machineries were seriously in short supply, especially before 1985, for example, the ratio of supply and demand of tablet press, liquid and powder filling- sealing machines was less than 1:2. With the progress of Reform & Opening Up, the development of pharmaceutical equipment industry was accelerated. During the last half period of "The Seventh Five-Year-Plan", the number of pharmaceutical equipment manufacturers increased to 180 who were able to manufacture 8 categories and 635 varieties of machineries and equipment, such as machinery and equipment for API manufacturing, preparation machinery and equipment, pharmaceutical milling machinery, machinery for making herbal medicine, water treatment equipment, packaging machinery, medicine inspection instrument as well as other pharmaceutical machinery and equipment. And the level of high speed tablet press, dish type centrifuge reached world level.

In 1985, with the Reform & Opening Up Policy going deeper, some military undertakings, scientific research institutions and other organizations joined in pharmaceutical equipment industry to start the manufacturing of machineries and this brought vitality to this industry. In a short time, enterprises gained obvious progress in attracting talents, quality management



as well as R&D of new products.

In the middle of the 1990s, there were already over 400 pharmaceutical equipment manufacturers who could produce 8 categories and about 1,100 varieties of machineries. The machineries they produced could not only meet the demands from medicine producers, health care producers as well as food industry in China, but also exported to more than 20 countries and areas outside of China, such as USA, India, Pakistan and Hong Kong.

GMP implementation in medicine production and the modernization of Chinese traditional medicine provided opportunities for developing pharmaceutical equipment industry, so new equipment manufacturers emerged, new types of machineries were developed and production technology and product quality were improved to a higher level. These machineries helped medicine producing factories in their GMP implementation.

Currently, there are about 800 pharmaceutical equipment manufacturers in China, they are now producing over 3,000 varieties and types of machineries. The level of most machineries remain at the world level of 1990s. However, a part of them has reached the current world level. The annual output of pharmaceutical machineries is already above 15 billions of RMB. Based on this fact, we can say that China has really become a big pharmaceutical equipment manufacturing country.

With the implementation of Reform & Opening Up going on deeper and deeper, the government administration departments changed their functions from time to time. By 1998, all government administration departments had been cancelled, and even the newly established State Food and Drug Administration Bureau was released from its function of managing of pharmaceutical equipment industry. In this case, China Association for Pharmaceutical Equipment (hereinafter referred to as CAPE) was set up based on the regulations and rules stipulated for Social Organizations. From thenon, CAPE started to act as the bridge between the government and pharmaceutical equipment manufacturers, to carry out the government guiding lines and policies, to reflect the desires and requirements from manufacturers to the government. In addition, CAPE also works on publications, net work, organizing various technical exchanges, seminars and training courses, opening up more foreign markets, to organize the establishment work of product standards as well as other works authorized by the government. CAPE has been doing a great deal for the development of pharmaceutical equipment industry, for modernization of China pharmaceutical industry and also has been contributing a great deal to the health of Chinese people.

The China National Pharmaceutical Machinery Exposition sponsored by