

## TECHNICAL EXPERT OF SOLID-LIQUID SEPARATION SOLUTION

### 固液分离难题技术专家

赛德力公司拥有四十多年离心机生产经验和为制药化工行业服务的经验，已磨砺出了一支高水平的技术团队，现研究开发了多种新型离心机，特别是符合中国CGMP、美国FDA、欧盟TGA、欧洲COS生产规范等无菌级的离心机。对于许多特殊行业、特殊物料分离技术方面的难题，赛德力提供了专门的设计案例。

多少年来，自动离心机的残余滤饼自动清除一直是行业内的难题。赛德力公司凭借在分离行业多年的生产经验和雄厚的技术力量，不断摸索，自主研发了多种可自动清除残余滤饼的离心机：

L(P)LGZ系列立式拉袋下卸料离心机	(获国家专利)
L(P)DG系列立式上部卸料刮刀离心机	(获国家专利)
L(P)XG系列立式上部吸料刮刀离心机	(获国家专利)
L(P)ZG系列立式上部振荡刮刀离心机	(获国家专利)
L(P)SD系列立式上部拉袋下卸料离心机	(获国家专利)

对于传统的立式刮刀和卧式刮刀离心机，赛德力攻克了技术难关，研制出了专门的配套装置：

立式刮刀离心机残余滤饼自动剔除装置	(获国家专利)
离心机残余滤饼自动剔除装置	(获国家专利)
卧式离心机残余滤饼自动剔除装置	(获国家专利)
离心机高压气体反吹装置	(获国家专利)
离心机新型刮刀片装置	(获国家专利)

彻底解决了自动离心机残余滤饼的自动清除问题，为客户设备技术升级和换代提供了选择和便利。



With more than 40 years of experience in the production of centrifuges and service in pharmaceutical and chemical industries, Saideli Company has cultivated a well-trained technical team and researched and developed various new types of centrifuges, especially the aseptic centrifuge that conforms to the standards such as CGMP, FDA, TGA, COS, etc. Saideli also provides special design plans for many problems in relation to the separation technology of special materials in many special industries.

Over the years, the automatic removing of residual cakes in the automatic centrifuge has always been a problem in the industry. Thanks to many years of production experience in the separation industry, powerful technical strength, and endless exploration, Saideli Company has independently researched and developed various types of centrifuges that can automatically remove the residual cakes:

L(P)LGZ series vertical centrifuge with bag pulling and lower discharging (Have owned the national patent)
L(P)DG series vertical scraper centrifuge with upper discharging (Have owned the national patent)
L(P)XG series vertical scraper centrifuge with upper material sucking (Have owned the national patent)
L(P)ZG series vertical scraper centrifuge with upper oscillating (Have owned the national patent)
L(P)SD series vertical centrifuge with upper bag pulling and lower discharging (Have owned the national patent)

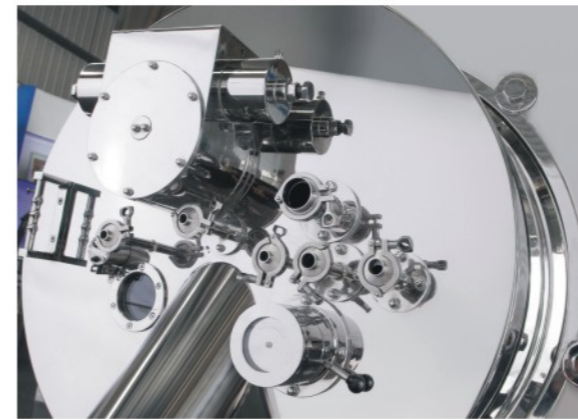
Saideli has solved technical problems and researched and developed special accessorial devices for the traditional vertical and horizontal scraper centrifuges:

- Automatic residual cakes removing device of vertical scraper centrifuge (Have owned the national patent)
- Automatic residual cakes removing device of centrifuge (Have owned the national patent)
- Automatic residual cakes removing device of horizontal centrifuge (Have owned the national patent)
- High pressure gas back blowing device of centrifuge (Have owned the national patent)
- New type scraper device of centrifuge (Have owned the national patent)

We have thoroughly solved the automatic removing problem of residual cakes in the automatic centrifuge, providing customers with selection and convenience in equipment technological upgrading.

## 离心机的全封闭运行

### Whole-sealing operation of centrifuge



随着国民经济的发展，环保意识不断增强，对产品品质追求和标准规范的修改，人们对离心机提出了更高的要求，尤其是制药行业，从赛德力公司上世纪九十年代率先推出系列密闭离心机以来，不断探索，现在已将密闭的概念拓展到几乎所有离心机系列，固液分离过程在一个全封闭的状态下运行，使离心机成为一个“不见阳光”的装备，让您的生产环境带来意想不到的变化，让您的认证更轻松。

当然，密闭不是简单两个字，它是一个系统，赛德力配合您来完成。同时，使用场合的不同，要求机器具备各种不同的工艺条件，赛德力公司凭借数十年的经验，与千余客户的共同探讨，针对各种工况要求设计了多种应对措施。

With the development of national economy and improvement of environmental protection ideas, people has raised higher demand to centrifuges, with their pursue to product quality and modification of the product norm especially in pharmaceutical industry. Since series hermetical centrifuges got promoted in 1990's, Saideli Company has widened to apply the conception of hermetical centrifuge to almost each series of centrifuge which enables solid-liquid separation to be operated in a complete-hermetical environment. Thus, centrifuge is changed into the equipment with no sunshine inside, which brings unimaginable change to the operation environment and make you more accessible to authentication. Certainly, hermetical is more than one simple word but a systematic process which needs our cooperation. Meanwhile, different occasions need different technological conditions. Based on decades of experience Saideli has made multiple countermeasures target on each occasion after discussion with over thousands of customers.



在线清洗核黄素检测  
Viboflavin test for CIP effect

## 离心机的在位清洗(CIP)

### Online cleaning (CIP) of centrifuge



目前离心机设备清洗多处于人工清洗，人工清洗在克服了物料间交叉污染的同时，常常容易带来新的污染。赛德力的第一代密闭离心机推向市场以来，就开始研究离心机在位清洗(CIP)，对于不同型式的离心机如何实现位清洗(CIP)，清洗何处？怎样清洗？清洗的难易，清洗的效果如何？多方结合考虑，对于需要清洗或不易于清洗的部位展开(CIP)功能联想，不断优化，让你所选择的设备(CIP)功能更理想。

Most of the centrifuges adopted manual cleaning. For one thing, it gets over the disadvantage of cross-contamination, for another, it may bring new pollution. Since the first generation of hermetical centrifuge was pushed to the market, Saideli has begun to study online cleaning (CIP) of centrifuge. To different types of centrifuges, how to realize CIP online cleaning and what's the effect, it needs careful consideration on each point of view. To the part necessary but different for cleaning, CIP functional association is needed to optimize your facility and better CIP function.

## 过滤材料的使用(介质) Filtering material(Medium for filtration)

选用合适的过滤介质关系到固液分离的成败，赛德力公司积几十年离心机制造经验，有专门从事过滤介质研究的技术人员，可以和您讨论各种工艺条件下的过滤介质，以满足您的性能要求：

- 澄清的滤液； ● 易剥落的滤饼； ● 经济的过滤时间； ● 小的堵塞趋势； ● 足够的滤材使用寿命；
- 不形成新的污染(尤其对于药品)



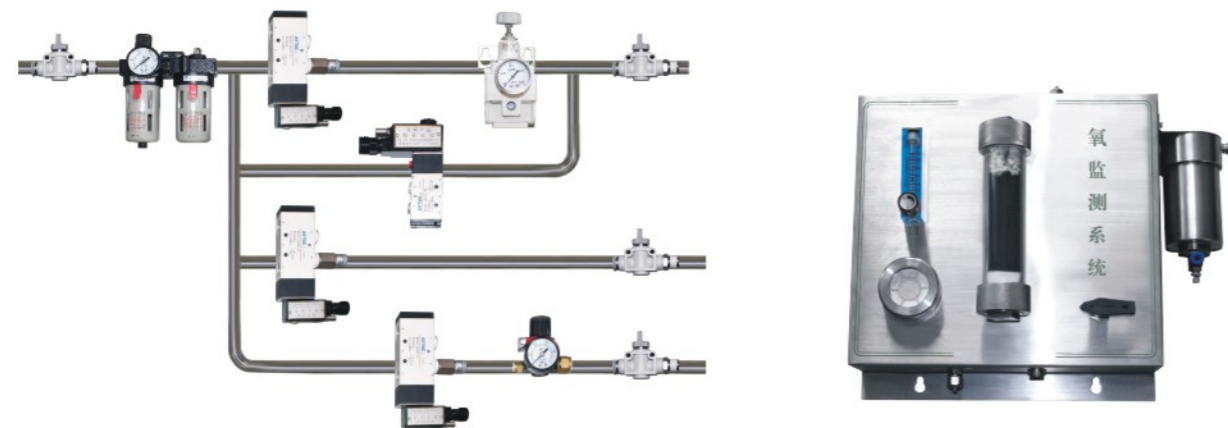
Good choice of suitable Medium for filtration weighs Heavily on solid-liquid separation. Accumulated with decades of manufacturing experience, Saideli has ability to discuss with you about filtering medium in different technical conditions based on our technician specialized in filter medium studies to meet your demand. Requirement:

- Pelucid filtrate
- Easily-peeled filtering cake
- Economical filtering time
- Less stuffing trend
- Sufficient long life of filtering material
- No secondary pollution (especially for medicine)

## 离心机安全防爆策划 Security project of centrifuge explosive-proof function

离心机大多应用于易燃、易爆、强腐蚀等恶劣环境下，安全防爆是使用者最为关心的问题，赛德力公司从产品设计到产品应用，从强度计算到材质的选用，尤其是防爆措施的应用，并不是简单地选用防爆电机即可。赛德力聘有防爆专家，针对不同的场所，不同的介质，与您共商安全防爆对策，如有惰性气体保护，氧气浓度的在线检测，合理布置，正确选择电器元件，静电排除等。

Security and ex-proof of centrifuge is the most concerning problem of customers, because generally centrifuge is applied in scurviness condition such as easy to explode, burn and erode. Saideli pays special attention to the design and application of products, the calculation of material's strengthen and selection of material. Considering the method of ex-proof application, Saideli does not simply adopt ex-proof motor only. Saideli has specialist of ex-proof problems; for different allocation and different intermediate, we will discuss ex-proof method with customers together such as inertia gas protection, oxygen content test on position, reasonable placement, right selection of electric units and exclusion of static electric.



## 离心机的控制与自动化 Control and automation of centrifuge

伴随着技术的进步、化工、制药行业规模化生产的趋势，人们对离心机的控制提出了不同的要求，简易控制，一般化自动控制，中控室集中控制等，赛德力积数十年设计制造经验，不断吸收国内外先进技术，成立了电器控制办公室，专门研发控制系统，并和相关研究机构密切合作，以满足不同客户需求的控制系统。

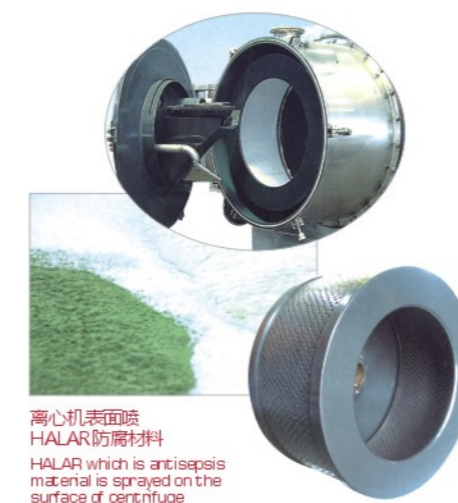
With the development of technology and the trend of batch production in chemical and pharmaceutical industry, people have raised different demands on centrifuge control such as simplified control, general automation control and center controlling etc. Accumulating years of designing and manufacturing experience, Saideli company has absorbed advanced technology both inside and outside China. We also established electric controlling office aiming to the special research of controlling system and we have cooperated with relative research agency closely to meet different customers' demand.



## 对于腐蚀特别严重的 物料采取特殊表面防腐处理等技术 Surface antiseptis processing technology applied in strong-erosive situation

离心机所处理的物料大多具有一定的腐蚀性，腐蚀的危害非常大，它使珍贵的材料变为废物，也经常对机器的安全构成威胁，结合客户的要求正确的选择材料和表面防腐处理是控制腐蚀的最好方法。

赛德力公司可以按您所分离物料的腐蚀数据，提供多种材质的产品，如碳钢、不锈钢304、321、316L、钛合金、哈氏合金等，可采取多种表面防腐处理方法，钝化、喷涂聚脂、F46、HALAR、衬塑、衬橡胶等。



离心机表面喷涂  
HALAR防腐材料  
HALAR which is antiseptis  
material is sprayed on the  
surface of centrifuge

The product processed in centrifuges usually is of erosive which may change precious material into waste and brings threat to mechanical security. The best method to control erosion is to choose material correctly and apply surface antiseptis technology in accordance with customers' requirement.

Saideli Company can supply you with multiple production manufactured with different materials according to your separating product erosion data such as carbon steel, stainless steel 304, 321, 316L, titanic alloy and Haynes alloy etc. Then we may adopt multiple surface antiseptis processing methods such as passivation, spray of plastic, F46, HALAR, lined plastic or rubber etc.