

过滤 / 洗涤 / 干燥 (三合一)

FILTERING / WASHING AND DRYING INTO ONE

N4

赛德力离心机制造专家

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JIANGSU SAIDELI PHARMACEUTICAL
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过滤 / 洗涤 / 干燥设备(三合一)
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● 性能与用途

纽克多功能过滤、洗涤、干燥设备(三合一)是在一密闭容器内先后完成搅拌、反应、过滤、清洗、脱液、干燥(并可二次打浆)等工艺过程。具有结构简单、工艺流程简化、生产效率高、无交叉污染、物料更换便捷,自动化程度高等特点。同时可大大降低所需洁净厂房的体积,基础投资费低。广泛应用于制药、化工、食品、染料等行业,尤为适合洁净度要求高,小批量多品种及特大批量的生产场合。该产品完全符合GMP、FDA规范要求。

● Performance and use

Nutsche multiple function filtering washing and drying facility (three in one) can finish a series of processes such as stirring, reaction, filtering, washing, dehydration and drying (repulping can also be processed) etc. With its simple structure and simplified working process, it has a higher efficiency, easier exchanging of product and good performance of automation without any cross-contamination. Meanwhile, cleaning plant building and basic investing fee can be reduced. It can be widely applied in the industries such as pharmacy chemical industry, food, printing dyeing industry. So it is especially suitable for the occasion where demands a high cleanliness or short runs but multiple types of product and large quantities of product. It is in accordance with both GMP Norm and FDA Norm.

图1 注入浆料
Feed in Plasma

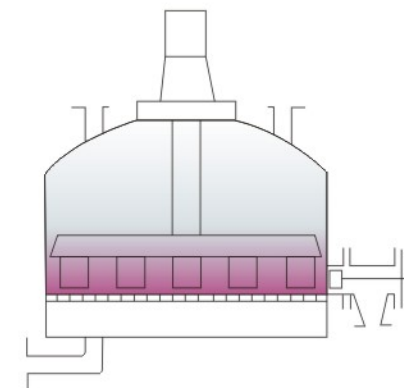


图1: 反应釜中的混悬液靠自身的重力或经泵注入到过滤器中, 然后在滤液接收装置中抽真空, 滤液接收装置连接在滤液流出口上。

PIC 1: Suspension liquid in reaction pot flows into filter under the effect of gravity. Then pump out the air in receiving device and vacuum comes into being. Receiving device of filtering liquid is connected to filtering liquid outlet.

图2 滤液吸出, 滤饼形成
Exhaust the filter liquid and form the filter cake

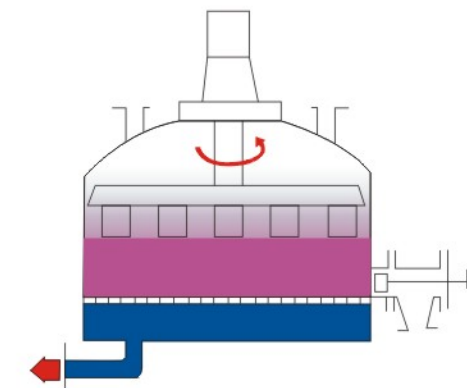


图2: 滤液通过滤床被抽滤至接收装置, 滤饼逐渐在滤床上形成。

PIC 2: Filtering liquid is drawn into receiving device through filtering bed, where filtering cake is formed little by little.

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图3 喷淋洗涤液, 重新混悬滤饼
 Spray Cleaning Liquid And Mix The Filter Cake Again

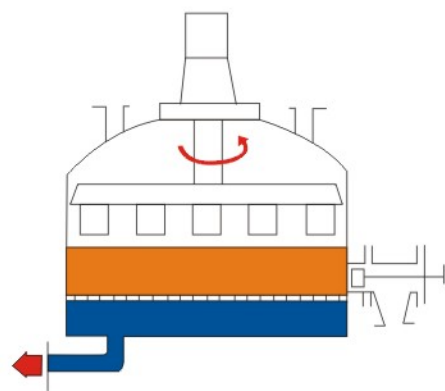


图3: 当大多数滤液抽出后, 滤床上沉积的滤饼可能还含有5%~20%的溶剂, 具体情况与混悬液中固体的性质有关。

PIC 3: It is possible that filtering cake on filtering bed still contains 5%-20% of the solvent when most of the filtering liquid is drawn out. Specific condition is related to the character of solid in suspension liquid.

图5 挤压滤饼
 Press Filter Cake

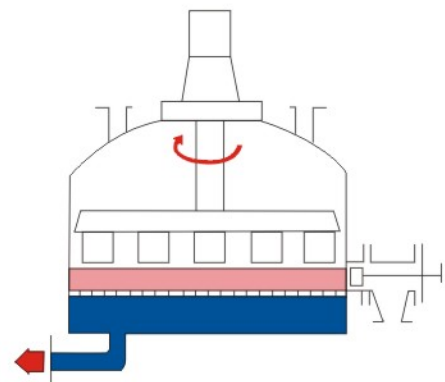


图5: 通过操作搅拌器, 还可以轻轻地挤压滤饼, 挤出残余液体。

PIC 5: Remnant liquid can be squeezed out by blender

图4 滤饼沉积在滤床上
 Filter Cake Subsides On The Filter Bed

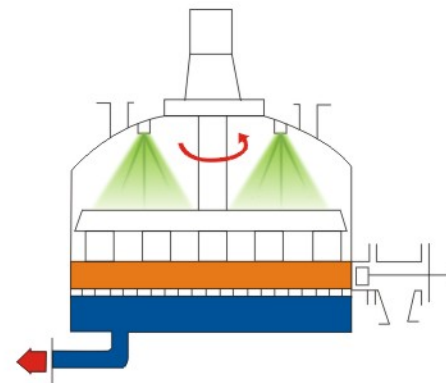


图4: 首次过滤完成后, 如果需要, 可喷淋洗涤, 启动搅拌器反向搅拌, 使滤饼重新混悬。

PIC 4: Spray washing may be used and start blender in the opposite direction to reform filter cake if necessary after initial filter.

图6 蒸发去除滤饼湿份
 Vaporize to Remove the Moisture of Filter Cake

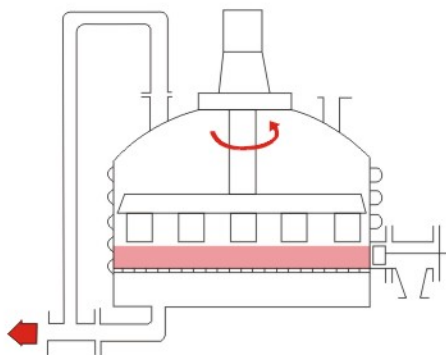


图6: 为了尽可能多地脱除滤饼中的残留液体或溶剂, 过滤器可加上夹套, 在其中通蒸汽或热水加热干燥。在过滤器的顶部和底部同时抽真空, 残留溶剂挥发, 通过接收装置上的冷凝器浓缩并回收。对有些物料, 执行上述流程即可, 无需另配干燥器进行干燥。

PIC 6: Clipping cover with vapor or hot water inside can be added to filter to remove more liquid or solvent as many as possible. Vacuum the top and bottom of filter to volatilize the remnant solvent which gets condensed and recycled by the cooler on receiving device. No necessity for extra dryer to some materials, just above mentioned process is needed.

图7 卸料
 Discharge

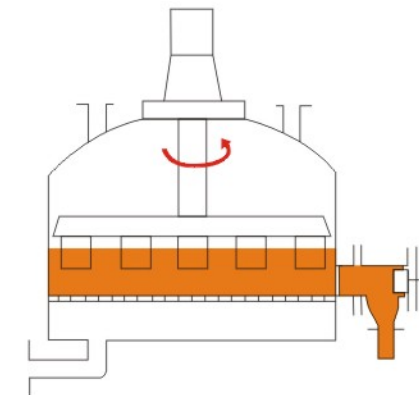


图7: 最后, 经过搅拌器在卸料方向的旋转和同时的下降运动, 搅拌器刮铲一层一层地顺序将滤饼刮出, 滤饼可从卸料口自动出料。

PIC 7: Finally, blender scraper scrapes off the filter cake orderly with the revolving and descending motion of blender along the discharging direction. Filter cake can be discharged automatically.

图8



图8: 搅拌器的搅拌桨和刮铲示意。

PIC 8: Diagram of blending pad and scraper of blender.

● 无菌级, 可折式过滤洗涤干燥机 Asepsis, Foldable Filtering Washing Drying Machine

标准型号 Standard Model	UNFCD 700	UNFCD 800	UNFCD 900	UNFCD 1200	UNFCD 1600	UNFCD 2000	UNFCD 2200	UNFCD 2600
公称过滤面积Nominal Filtering Area (m ²)	0.38	0.5	0.63	1.1	2	3.1	3.8	5.3
内直径Inner Diameter(mm)	700	800	900	1200	1600	2000	2200	2600
公称容积Nominal Volume(m ³)	0.25	0.35	0.5	1	2	3	4	5
筒体高度Bucket Height(mm)	690	800	800	1000	1000	1000	1000	1000
滤饼厚度Filtering Cake Thickness(mm)	200	200	300	400	400	400	400	400

● 工业级, 固定式过滤洗涤干燥机 Industrial, Fixed Filtering Washing Drying Machine

标准型号 Standard Model	UNFCD 900	UNFCD 1200	UNFCD 1600	UNFCD 2000	UNFCD 2200	UNFCD 2600
公称过滤面积Nominal Filtering Area (m ²)	0.63	1.1	2	3.1	3.8	5.3
内直径Inner Diameter(mm)	900	1200	1600	2000	2200	2600
公称容积Nominal Volume(m ³)	0.5	1	2	3	4	5
筒体高度Bucket Height(mm)	800	1000	1000	1000	1000	1000
滤饼厚度Filtering Cake Thickness(mm)	300	400	400	400	400	400

说明: ①以上规格及技术参数因技术改进恕不另行通知。

②该产品也可量身定做, 最大规格可做到20m³(化工级)。

Note: ①We will not inform you if the above specifications and technical parameters are changed.
 ②This product can be customized with the maximum specification of 20m³(chemical grade).

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● 纽克多功能过滤系统具备如下优点

1. 系统封闭: 此设备是一个全封闭运行的系统, 能完全避免生产过程中溶剂对空气的污染, 同时能减少因与毒性物质接触而导致操作人员中毒事故的发生。
2. 回收完全: 物料和溶剂近乎完全回收, 避免因物料遗漏和溶剂挥发而引起的浪费, 具有很大的经济效益, 特别是处理物料和使用溶剂价值较高时更是如此。
3. 同时干燥: 过滤、清洗和干燥能在同一设备中完成。容器壁可以配备加热套层, 从而能够进行干燥的操作。
4. 操作连续: 能够使过滤和干燥在一个连续的系统内进行, 毋须处理湿滤饼。在过滤器下可以连接一个干燥器, 使湿滤饼直接卸入干燥器, 干燥后的产品可以机械传送到称重、包装等工段。
5. 节约人力: 一个经过简单培训的非技术人员即可以完成操作。开、关、自动进料、自动出料都毋须技术人员监控。
6. 清洗彻底: 由于此设备具有自动喷淋和重新打浆的功能, 滤饼可以得到非常彻底的清洗。并且洗涤液用量较其它类型设备少, 可减少排污量和降低废水处理费用。
7. 清洁生产: 此多功能过滤器干燥系统装配有粉尘捕集器, 能完全收集干燥后产生的粉尘, 可满足高洁净度的生产操作要求。

● Nutsche Multiple Function Filtering Washing and Drying Machine Has The Following Advantages

1. Hermitical system: it is a hermitical system which can avoid pollution to air from solvent; meanwhile it reduces the danger of workers' poisoning because of contact with toxic materials.
2. Complete recycling: Material and solvent get nearly complete recycled, which avoid waste of material and volatilization of solvent. So it is of great economic value. Especially when material and solvent is expensive.
3. Drying process is at the same time: Filtering and drying process are finished in the same container. Container wall is selective to be equipped with heating cover to enable heating operation.
4. Continuous operation: It enables filtering and drying in the Continuous container with no necessity of processing wet filtering cake. A dryer can be connected under the filter where wet filtering cake may be discharged directly. The dry product can be conveyed to weight or package etc. Processes.
5. Human labor saving: Non-technician can finish such operation after Simple training. No necessity for technician in the process such as on and off of machine, automatic feeding and discharging.
6. Full cleaning effect: Filtering cake can get thoroughly cleaned because it has automatically spraying and repulping. What's more it has lower demand for washing liquid quantity, So pollution quantity and processing fee of wasted water can both be reduced.
7. Cleaning manufacturing: Equipped with dust collector; it can collect all the dust after drying which can meet the demand for cleaning manufacturing.

