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Pilot & Production equipment

Reactor
Distillation
Concentration
Extraction
Drying operation system

QBR테크의 제품은 오랜 시간, 설계와 시공을 통해 축척된 경험에서 생산되는 믿을 수 있는 기술입니다

QBR Tech's products are reliable technology with the experience accumulated through design and construction for a long time

QBR Tech's products are **Reliable Technology**

CONTENTS

실험장치에서 생산설비까지 큐비알 기술력으로 만들어집니다.

당사는 숙련된 기술과 Know-How를 바탕으로 설립 되었습니다. 사업 영역은 각종 반응 시스템 및 특수 증류 시스템을 Lab Scale에서 Industrial Plant까지 설계 및 설치시공에 이릅니다.
특히, 2013년 부터 고진공 박막증류장치와 High Torque Magnetic Drive를 자체개발 하여 다수의 기업에 설치하여 사용중에 있습니다.
빠른 변화와 혁신의 시장 속에 고객의 다양한 요구에 맞는 제품을 생산하고 공급하고자 당사의 모든 역량을 쏟고 있으며, 보다 세련된 디자인은 물론 안전과 편리성을 고려한 설계로 고객께 보답하기 위하여 모든 임직원들은 오늘도 최선을 다하고 있습니다.
앞으로도 지속적인 관심과 성원 부탁 드립니다.

Laboratory Apparatus is made with "QBR's Technology" in Korea!

Based on the technologies and Know-How accumulated through research and development, we have built the capability to provide complete facilities, from Lab Scale to Production Plant to design and construction of various reaction systems and special distillation systems.
In particular, since 2013, it has developed its own high vacuum thin film distillation device and High Torque Magnetic Drive and has been installed and operated in many companies.
In the market of rapid change and innovation, we are putting all our capabilities into producing and supplying products that meet our customers' diverse needs, and all executives and employees are doing their best today to repay customers with more sophisticated designs as well as safety and convenience.
We ask for your continued interest and support.

[연혁]

- 2020년 Glass ware 생산시설 도입 및 운영
- 2020년 경기도 고양시 내유동으로 본사 이전 및 사옥준공
- 2020년 (주)큐비알 법인 설립
- 2019년 JIANGSU SHAJIABANG PHARMACEUTICAL & CHEMICAL EQUIPMENT CO.,LTD 와 총판계약
- 2017년 SHANGHAI DA FENG GLASSWARE CO.,LTD. 와 분별증류시스템 기술협약
- 2017년 ISO9001 & ISO14001 인증 (반응기, 증류장치 분야)
- 2016년 특허 제 0676854 호 '하이브리드형 자기베어링을 이용한 초소형 스핀들장치' 권리이전등록
- 2016년 특허 제 1059434 호 '진공척' 권리이전등록
- 2016년 기업부설 연구소 설립 : 경기도 고양시 소재
- 2013년 큐비알테크로 상호 변경 : 경기도 고양시 소재
- 1998년 '중앙이화학' 창업 : 서울 종로구 소재

THE PERFECT SOLUTION FOR YOUR LABORATORY EQUIPMENT & PRODUCTION EQUIPMENT

완벽한 실험장비 및 생산장비 QBR의 기술력입니다

Manufacturing perfect laboratory equipment and production equipment is QBR's technology.

[주요납품처]

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- [주]국전약품 - REACTOR SYSTEM
- 코오롱인더스트리[주] - FRACTIONAL DISTILLATION SYSTEM
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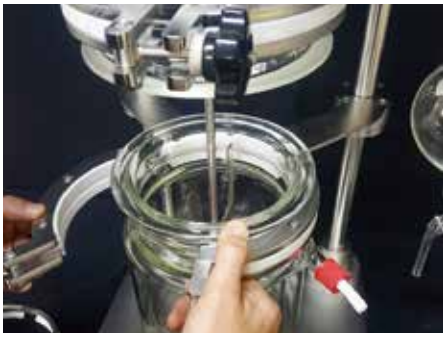

FDS 분별증류시스템
FRACTIONAL DISTILLATION SYSTEM

용도
본 분별증류시스템은 Reboiler, Column, Reflux divider, Condenser, Cooler & Receiver 의 6 부분으로 구성되어 있습니다. 제약, 화학, 천연물질 및 식품산업 등 다양한 분야에서 연구용으로 사용되고있습니다. 특히 주정알콜등 고가의 유기용매를 재생하는 용도 및 고순도 정제에 사용됩니다.

특징 및 장점
1. 진공증류 및 연속식 시스템 적용가능.(Option)
2. 국내 유일의 전자동 분별증류시스템 구현.(Option)
3. 소형의 Lab Scale에서 Industrial Scale 까지 설계 및 제작 설치.
4. 유리(Borosilicate 3.3 Glass)외 에도 Stainless Steel, 석영(Quartz) 및 특수합금 소재(Hastelloy)등 다양한 재질로 제작.
5. 사용자의 요구에 따라 주문 제작됩니다. (Customizing)
6. 방폭 시스템 및 HMI Control System을 적용한 제품도 제작됩니다.

Usage
This fractional distillation system consists of 6 parts: Reboiler, Column, Reflux divider, Condenser, Cooler & Receiver. It is used for research in various fields such as pharmaceutical, chemical, oriental medicine and food industry. In particular, it is used for regenerating expensive organic solvents such as alcohol and for high-purity purification.

Feature
1. Vacuum distillation and continuous system applicable.
2. Implementation of fully automatic fractional distillation system.
3. Design, build and install from Lab Scale to Industrial Scale.
4. The material is made of various materials such as glass (Borosilicate 3.3 Glass), stainless steel, quartz, and special alloy material (Hastelloy).
5. It is made to order according to your needs. (Customizing)
6. Products applied with explosion-proof systems and HMI Control Systems are also manufactured.

Specification

Parameter \ Type	FDS-01V-40PT	FDS-02V-40PT	FDS-03V-40PT	FDS-05V-40PT	FDS-10V-40PT	FDS-20V-40PT	FDS-50V-40PT
Boiler Capacity (L)	1	2	3	5	10	20	50
Theoretical Plate	Basically, it is designed with 40-NTP. The number of theoretical plates is changed according to customer demand.						
Packing Material	Quartz Raschig Ring or An Efficient Protruded SUS316 Dump-Packing						
Condenser Type	Double Coil & Jacket Type or Shell & Tube Type						
Heating Method	Heating Mantle or Thermal Oil Circulation Unit						
Heating Mode	Vapor Temp. Control / Boiling Liquid Temp. Control / thyristor Power Regulator						
Temp. Controller	2 Channel Programmable Temp. Controller (5.7" LCD Touch Monitor)						
Reflux Ratio	0 : 0 ~ 999 : 999 sec (Digital Timer Setting)						
Receiver (L)	1	2	3	5	10	20	50
Material	It is basically made of borosilicate 3.3 glass. However, it can also be made of Stainless Steel, Quartz or Hastelloy according to customer requirements.						
Multiple Collector *	It is used when the mixed solution is varied. (There are automatic type and manual type, please consult when requesting a quote.)						
Cooling Circulator *	1500 Kcal/hr , 0.45Kw		3000 Kcal/hr, 0.75Kw		4500 Kcal/hr, 1.15Kw		6000 Kcal/hr, 1.5Kw
Vacuum Control Sys. *	Vacuum Pump / Vacuum Control / Vacuum Cold Trap, etc. are required, and the configuration varies according to the required vacuum level. Please consult when requesting a quote.						

Items marked with (*) are optional. Please consult us when requesting a quote.

TFES 박막증류시스템
THIN FILM EVAPORATOR

용도
본 박막증류시스템은 고효율 증발 및 증류 장비로, 증발부 내부에 고속 회전하는 Wiper 또는 Squeegee의 회전력에 의해 증발부에 원료액체가 평평한 박막형태로 도포되어 증발효율을 높이며, 원료의 고착을 막고 탈포를 함으로써 고순도의 증발이 가능 합니다. 열에 민감한 천연원료의 증발 농축에 적합하며, 한의약, 식품, 제약, 석유화학 및 화장품산업 등에서 널리 사용됩니다.

특징 및 장점
1. 진공상에서 증발되므로 물질의 비점보다 낮은 온도에서 증류됩니다.
2. 기본 Batch Type에 Gear Pump를 장착한 연속식 시스템까지 다양한 구성이 가능합니다.
3. 소형의 Lab Scale에서 Industrial Scale 까지 설계 및 제작 설치.
4. 유리(Borosilicate 3.3 Glass)외 에도 Stainless Steel, 석영(Quartz) 및 특수합금 소재(Hastelloy)등 다양한 재질로 제작.
5. 사용자의 요구에 따라 주문 제작됩니다. (Customizing)
6. 방폭 시스템 및 HMI Control System을 적용한 제품도 제작됩니다.

Usage
This thin film distillation system is a high-efficiency evaporation and distillation equipment. The raw material liquid is applied in the form of a flat thin film to the evaporation part by the rotational force of the high-speed rotating wiper or squeegee inside the evaporation part, thereby increasing the evaporation efficiency, preventing the sticking of the raw material and preventing defoaming. This enables high-purity evaporation. It is suitable for evaporative concentration of heat-sensitive natural raw materials and is widely used in oriental medicine, food, pharmaceutical, petrochemical and cosmetic industries.

Feature
1. As it evaporates in vacuum, it is distilled at a temperature lower than the boiling point of the substance.
2. Various configurations are possible from batch type to continuous system with gear pump applied.
3. Design, build and install from Lab Scale to Industrial Scale.
4. The material is made of various materials such as glass (Borosilicate 3.3 Glass), stainless steel, quartz, and special alloy material (Hastelloy).
5. It is made to order according to your needs. (Customizing)
6. Products applied with explosion-proof systems and HMI Control Systems are also manufactured.

Specification

Parameter \ Type	TFES-05	TFES-12	TFES-15	TFES-30	TFES-40	TFES-60
Evaporation Area (㎡)	0.05	0.12	0.15	0.3	0.4	0.6
Diameter (㎜)	60	80	100	150	200	300
Heating Method	Thermal Oil Circulation Unit or ETC.					
Condenser Area (㎡)	0.1	0.2	0.3	0.5	0.8	1.0
Condenser Type	Double Coil & Jacket Type or Shell & Tube Type					
Rota Agitator (rpm (Max.))	600	600	600	300	300	300
Throughput (Max.) (㎖/min)	~50	~100	~200	~300	~500	~1000
Feed Funnel (㎖)	250	500	1000	2000	3000	5000
Receiver (㎖)	250 x 2	500 x 2	1000 x 2	2000 x 2	3000 x 2	5000 x 2
Material	It is basically made of borosilicate 3.3 glass. However, it can also be made of Stainless Steel, Quartz or Hastelloy according to customer requirements.					
Continuous System *	It is basically made as a batch system. However, upon customer request, continuous systems with gear pumps and back pressure valves are also manufactured.					
Cooling Circulator *	Please inquire when requesting a quote.					
Heating Unit (TCU) *	Please inquire when requesting a quote.					
Vacuum System *	Vacuum Pump / Vacuum Control / Vacuum Cold Trap, etc. are required, and the configuration varies according to the required vacuum level. Please inquire when requesting a quote.					

Items marked with (*) are optional. Please consult us when requesting a quote.

MDS 분자증류시스템
MOLECULAR DISTILLATION SYSTEM (SHORT PATH DISTILLATION SYSTEM)

용도
본 분자증류시스템은 증발부에서 응축기까지의 거리가 짧다는 의미에서 Short Path Distillation Equipment라고도 합니다. 열에 민감한 물질 및 고비점 물질의 증류 농축에 널리 사용됩니다. 탈취, 정제 및 농축 프로세스, 석유화학공업, 정밀화학공업, 천연물질, 제약, 농업, 식품 및 화장품 산업등 광범위하게 사용됩니다.

Usage
This molecular distillation system is also called Short Path Distillation Equipment in the sense that the distance from the evaporator to the condenser is short. Widely used for distillation concentration of heat sensitive substances and high boiling point substances. It is widely used in deodorization, refining and concentration process, petrochemical industry, fine chemical industry, oriental medicine, pharmaceutical, agriculture, food and cosmetic industry.

특징 및 장점
1. Booster Pump를 추가하면 $5x10^{-3}$ mbar이상의 높은 진공도에서 증류가 가능합니다.
2. 재료의 비점보다 낮은 온도에서 증발됩니다.
3. 가열시간이 짧습니다.
4. 재료가 가열부에 머무는 시간이 짧아 물질의 열변성을 막습니다.
5. 박막증류시스템과 Dual System으로 구성하면 보다 높은 증류효율 및 고순도 증류를 보장합니다.
6. 기본 Batch Type에 Gear Pump를 장착한 연속식 시스템까지 다양한 구성이 가능합니다.
7. 소형의 Lab Scale에서 Industrial Scale 까지 설계 및 제작 설치.
8. 유리(Borosilicate 3.3 Glass)외 에도 Stainless Steel, 석영(Quartz) 및 특수합금 소재(Hastelloy)등 다양한 재질로 제작.
9. 사용자의 요구에 따라 주문 제작됩니다. (Customizing)
10. 방폭 시스템 및 HMI Control System을 적용한 제품도 제작됩니다.

Feature
1. It has a high vacuum of $5x10^{-3}$ mbar.
2. It evaporates at a temperature lower than the boiling point of the material.
3. The heating time is short.
4. The material stays in the heating part for a short time, preventing thermal degradation of the material.
5. When configured with a thin film distillation system, distillation efficiency and high purity distillation are guaranteed.
6. Various configurations are possible from batch type to continuous system with gear pump applied.
7. Design, build and install from Lab Scale to Industrial Scale.
8. The material is made of various materials such as glass (Borosilicate 3.3 Glass), stainless steel, quartz, and special alloy material (Hastelloy).
9. It is made to order according to your needs. (Customizing)
10. Products applied with explosion-proof systems and HMI Control Systems are also manufactured.

Specification

Parameter \ Type	MDS-04	MDS-12	MDS-15	MDS-30	MDS-40	MDS-60
Evaporation Area (㎡)	0.05	0.12	0.15	0.3	0.4	0.6
Diameter (㎜)	60	80	100	150	200	300
Heating Method	Thermal Oil Circulation Unit or ETC.					
Condenser Area (㎡)	0.03~	0.1~	0.12~	0.2~	0.3~	0.4~
Condenser Type	Double Coil & Jacket Type or Shell & Tube Type					
Rota Agitator (rpm (Max.))	600	600	600	300	300	300
Throughput (Max.) (Kg/hr)	0.5 ~ 3	0.8 ~ 6	1 ~ 10	3 ~ 18	5 ~ 30	10 ~ 60
Feed Funnel (㎖)	250	500	1000	2000	3000	5000
Receiver (㎖)	250 x 2	500 x 2	1000 x 2	2000 x 2	3000 x 2	5000 x 2
Material	It is basically made of borosilicate 3.3 glass. However, it can also be made of Stainless Steel, Quartz or Hastelloy according to customer requirements.					
Continuous System *	It is basically made as a batch system. However, upon customer request, continuous systems with gear pumps and back pressure valves are also manufactured.					
Cooling Circulator *	Please inquire when requesting a quote.					
Heating Unit (TCU) *	Please inquire when requesting a quote.					
Vacuum System *	Vacuum Pump / Vacuum Control / Vacuum Cold Trap, etc. are required, and the configuration varies according to the required vacuum level. Please inquire when requesting a quote.					

Items marked with (*) are optional. Please consult us when requesting a quote.


SHORT PATH DISTILLATION APP.
MODEL : SPD-00420-NC
TEL. 031-888-3607

RVS 반응시스템
REACTION SYSTEM

용도
반응 시스템은 너무도 광범위한 분야에서 다양한 용도로 사용되는 장비입니다. 당사는 그간의 설계 경험을 바탕으로 다양한 요구에 부합하는 시스템을 제작하였습니다. 가열방법, 온도변화, 교반효율 등 반응조건에 최적인 반응시스템을 공급합니다.

특징 및 장점
1. 소형의 Lab Scale에서 Industrial Scale 까지 설계 및 제작 설치.
2. 유리(Borosilicate 3.3 Glass)외 에도 Stainless Steel, 석영(Quartz) 및 특수합금 소재(Hastelloy) 등 다양한 재질로 제작.
3. 사용자의 요구에 따라 주문 제작됩니다. (Customizing)
4. 방폭 시스템 및 HMI Control System을 적용한 제품도 제작됩니다.
5. GMP 설비 및 산안 등 검사 대응도 가능합니다.

Usage
A reaction system is a device that is used for a variety of purposes in a very wide field. Based on our design experience, we have manufactured a system that meets various needs. We supply the optimal reaction system for the reaction conditions such as heating method, temperature change, and stirring efficiency.

Feature
1. Design, build and install from Lab Scale to Industrial Scale.
2. The material is made of various materials such as glass (Borosilicate 3.3 Glass), stainless steel, quartz, and special alloy material (Hastelloy).
3. It is made to order according to your needs. (Customizing)
4. Products applied with explosion-proof systems and HMI Control Systems are also manufactured.
5. It is also possible to respond to GMP facilities and government inspections.

Specification - Cylindrical Jacket Type Reaction System

Parameter / Type	RVS-01CJ	RVS-2CJ	RVS-05CJ	RVS-10CJ	RVS-20CJ	RVS-30CJ	RVS-50CJ
Working Capacity (L)	1	2	5	10	20	30	50
Vessel Type	Cylindrical Jacket Type						
Working temp. (℃)	-30 ~ 200						
Heating Method	Thermal Oil Circulation Unit (T.C.U)						
Components	Reflux Condenser/ Feed Funnel/ Agitator/ Shaft Seal/ Impeller/ Temp. Indicator/ Pressure Gauge/ DIP Nozzle(N2 purge) & ETC.						
Bottom Valve	Flush Bottom Valve (PTFE)						
Frame	Aluminium Profile or Stainless Steel Pipe dia.27.2mm and Metal Joint						
Material	It is basically made of borosilicate 3.3 glass. However, it can also be made of Stainless Steel, Quartz or Hastelloy according to customer requirements.						
Cooling Circulator *	Please inquire when requesting a quote.						
Heating Unit (TCU) *	Please inquire when requesting a quote.						

Items marked with (*) are optional. Please consult us when requesting a quote.

Specification - Round Flask Type Reaction System

Parameter / Type	RVS-01RF	RVS-2RF	RVS-05RF	RVS-10RF	RVS-20RF	RVS-30RF	RVS-50RF
Working Capacity (L)	1	2	5	10	20	30	50
Vessel Type	Round Flask Type						
Working temp. (℃)	Ambient +10 ~ 300						
Heating Method	Digital Heating Mantle						
Components	Reflux Condenser/ Feed Funnel/ Agitator/ Shaft Seal/ Impeller/ Temp. Indicator/ Pressure Gauge/ DIP Nozzle(N2 purge) & ETC.						
Bottom Valve	Flush Bottom Valve (PTFE)						
Frame	Aluminium Profile or Stainless Steel Pipe dia.27.2mm and Metal Joint						
Material	It is basically made of borosilicate 3.3 glass. However, it can also be made of Stainless Steel, Quartz or Hastelloy according to customer requirements.						

SPECIFICATION - Cylindrical Type Reaction System

Parameter / Type	RVS-01CB	RVS-2CB	RVS-05CB	RVS-10CB	RVS-20CB	RVS-30CB	RVS-50CB
Working Capacity (L)	1	2	5	10	20	30	50
Vessel Type	Cylindrical Beaker Type						
Working temp. (℃)	Ambient +10 ~ 300						
Heating Method	Digital Heating Mantle						
Components	Reflux Condenser/ Feed Funnel/ Agitator/ Shaft Seal/ Impeller/ Temp. Indicator/ Pressure Gauge/ DIP Nozzle(N2 purge) & ETC.						
Bottom Valve	Flush Bottom Valve (PTFE)						
Frame	Aluminium Profile or Stainless Steel Pipe dia.27.2mm and Metal Joint						
Material	It is basically made of borosilicate 3.3 glass. However, it can also be made of Stainless Steel, Quartz or Hastelloy according to customer requirements.						

생산설비
PILOT & PRODUCTION EQUIPMENT

반응, 증류, 농축, 추출, 건조조작 시스템은 화학, 제약, 식품, 바이오 및 환경산업등 광범위한 분야에서 다양한 용도로 사용되고 있습니다. 안전과 환경에 위해성이 상당한 물질을 원료로 사용하기도하고, 사람과 동식물 특히 어린이가 섭취하는 식품과 약품을 생산하는 목적으로 사용됩니다. 이러한 안전성과 위해성 그리고 인간의 건강과 생명에 영향을 끼치는 물질을 생산함에 있어서 제조설비의 설계부터 설치까지 철저한 관리와 작업자의 안전 인식 고취가 필수적입니다. 당사는 그간의 시공 경험을 바탕으로 다양한 요구와 안전에 부합하는 시스템을 제작하고 있습니다.

Reaction, distillation, concentration, extraction, and drying operation systems are used for various purposes in a wide range of fields such as chemical, pharmaceutical, food, bio and environmental industries. Substances that pose a significant risk to safety and the environment are used as raw materials, and they are used for the purpose of producing food and drugs for humans, animals and plants, especially children. Thorough management from design to installation of manufacturing facilities and promotion of safety awareness among workers are essential in producing substances that affect safety and risk and human health and life. Based on our construction experience, we are manufacturing systems that meet various needs and safety.

■ENCAPSULATE FIRE EXTINGUISHER PROJECT-PILOT

■CATALYST FOR AIR POLLUTANTS PROJECT-PILOT

■ENCAPSULATE FIRE EXTINGUISHER PROJECT-PRODUCTION PLANT

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■CATALYST FOR AIR POLLUTANTS PROJECT-PRODUCTION PLANT

■FLUID BED DRYER-INDUSTRIAL SCALE

생산설비
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■MOLECULAR DISTILLATION SYSTEM-PILOT

화학공정 시뮬레이션 시스템

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