

진공 & 가스분위기 연속식 로타리킬른(Continous Rotary Tube Kiln)

APPLICATION

- Calcination for EV battery materials
- Thermal reaction & firing
- Thermal treatment of bulk materials (powder, granules, fiber, waste)
- Thermal recycling
- Pyrolysis process
- **Solutions for High Purity Material Processing**

FEATURES

- Vacuum tight metal work tube mechanism
- Multi-Rotary sealing system(Vacuum & gas-pr
- Auto feeding device(screw conveyor)
- Inlet feed tank under vacuum
- Outlet buffer tank under vacuum
- Portable collecting tank under vacuum
- Gas feeding device for one or more process gases
- Baffle fittings in rotary tube for improvement of flowing qualities
- Adjustable inclination(tilting) and speed(tube rotation)
- Insulation of qualitatively superior ceramic fiber
- High energy efficiency
- Over-temperature protection
- Touch panel auto-control, data logger
- Continuous or batch operation

OPTIONS

- Gassing for safe operation when using flammable & explosive gases
- Burning-off device with flammable & explosive gases
- High vacuum system(roots pump or turbomolecular pump)
- Inconel tube increased temperature up tp 1150°C
- Higher heating power & heater grade
- Trailing thermocouple
- HMI PLC control & touch panel process control
- Water cooling screw conveyor system
- Air Knocking system

Solutions for High Purity Material Processing

Modern applications of advanced materials require the performance and safety that is only achieved by maintaining **ultra-high purity powders**. KF's rotary systems consider these high purity applications from beginning to end: material in-feed valves and feeder, high-heat reactor tube, product cooling tube, and material discharge valves and collection. We have the experience to engineer these components, whether they are specialty alloys, fused silica quartz, or technical ceramics such as alumina or silicon carbide, to achieve a chemically inert environment all while maintaining a gas-tight and dust-tight system for your advanced materials.



Rotary Tube Furnace Design Enhancements

- Riffle(lifting) flights – provide axial mixing for processing at a fixed average composition and are excellent for moderating exothermic reactions or continuous in-line mixing. Riffle flights enable similar benefits as standard continuous stirred tank reactors (CSTR), but in a continuous rotary tube format.
- Helical flights – convey material without back-mixing. Utilized for processes that require narrow residence time distributions.
- Cross Flow System – coarse, free-flowing material can be heated and reacted with through-flowing gas. Gas flows locally through the solid material path while globally flowing co-current, counter-current – or combinations thereof – to **material flow, providing superior gas-solid contact.**
- Advanced Sealing System – patented rotary reactor sealing system provides optimal **rotary tube furnace vacuum & atmosphere integrity with minimal gas consumption**

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	1001003000-3RK	1001503600-3RK	1002505000-3RK
External dim.(외형치수) D x W x H(mm)	800 x 3500 x 1800	900 x 4000 x 1900	1000 x 5500 x 2300
Hot zone(mm)	1000	1600	3000
Work tube Φ(mm)	100	150	250
Tmax vacuum & gas atmosphere(℃)	1000/1150(option)	1000/1150(option)	1000/1150(option)
Work volume/dwell time (liters/hrs)	1.4	5-6	30
Inlet feed tank(liters)	3	20	80
collecting tank(liters)	3	20	80
Tube speed(rpm)	0-2	0-2	0-2
Tilting(degree)	5	3.5	3
Max. heat-up-rate(K/min)	10/17(option)	10/17(option)	10/17(option)
Heating element / type	Kanthal A1 / cylindrical SIC heater(option)	Kanthal A1 / cylindrical SIC heater(option)	Kanthal A1 / cylindrical SIC heater(option)
Insulation	Ceramic fiber module	Ceramic fiber module	Ceramic fiber module
Power(Kw)(380V, 3P)	16/22(option)	20/30(option)	60/80(option)
Vacuum range(torr) empty furnace, ambient temp-clean, cold	5x10 ⁻² /10 ⁻⁵ (option)	5x10 ⁻² /10 ⁻⁵ (option)	5x10 ⁻² /10 ⁻⁵ (option)
Vacuum pump range(torr)	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³
Gas flow-meter	Ball flow-meter/MFC	Ball flow-meter/MFC	Ball flow-meter/MFC
Gas pressure guage & auto vent valve	23	23	23
By pass valve	check valve	check valve	check valve
Vacuum valve	auto angle valve	auto angle valve	auto angle valve

