

Four-tube reduction furnace



Four-tube reduction furnace introduction:

The fully automatic four-tube reduction furnace uses hydrogen as the reducing atmosphere to reduce tungsten oxide (molybdenum, cobalt) powder in a square (or round) furnace tube. It is used to produce tungsten (molybdenum, cobalt) powder of various grades such as ultra-fine particles, fine particles, medium particles and coarse particles. It is equipped with automatic feeding and discharging devices, automatic weighing devices, and automatic feeding devices. operation.

Features of fully automatic four-tube reduction furnace:

1. Fully automated production, greatly reducing the labor intensity of workers, high production efficiency;

2. The unique furnace design structure is adopted, the uniformity of the temperature field of the furnace is good, the temperature gradient of each zone can be well realized, the product particle size distribution is good, and the quality is excellent;
3. The process gas in the furnace is continuously and stably introduced, and it is not affected when feeding and discharging materials. ;
4. The furnace tube can be selected from the new and unique integral drawing furnace tube, with small deformation and long service life of the furnace tube;
5. It has high reliability, good operability, maintainability and safety performance, and can work stably and continuously for a long time;
6. The furnace has good thermal insulation performance, and the energy consumption of the long-term operation of the equipment is low.

Selection reference

The commonly used configuration models are:

1. ZK-4/1050-750/30-5-4

The configuration of this model means: four-tube reduction furnace, the maximum design temperature is 1050 °C, fully automatic control, the length of the furnace tube is 7500mm, and the width of the inner cavity is 300mm. The furnace type has 5 temperature zones, three layers of heating in the upper, middle and lower layers, and a total of ten temperature zones, which is suitable for the production of medium and fine particle tungsten powder.

2. ZK-4/1100-600/19-3-4

The configuration of this model means: four-tube reduction furnace, the maximum design temperature is 1100 °C, fully automatic control, three temperature zones, upper, middle and lower heating layers, a total of six temperature zones. The length of the furnace tube is 6000mm, and the inner cavity width is 190mm, which is suitable for the production of coarse tungsten powder.

3. XH-LHCS4/1100-6000/190-3-1

The configuration of this model indicates: four-tube reduction furnace, with automatic control of feeding boat, the furnace tube is a square tube, the design temperature is 1100° C, the long-term service temperature is ≤1050° C, the length of the furnace tube is 6000mm, and the width of the inner cavity is 190mm , the furnace has 3 temperature zones, two upper and lower layers of heating, a total of six temperature zones, using a single-layer boat, suitable for the production of medium and coarse-grained tungsten (molybdenum, cobalt) powder.

Common configuration technical parameters of four-tube reduction furnace

Model	CNEQPS/1050-7500/300-5-2	CNEQPS/1000-7500/2204-1-N	CNEQPS/1100-6000/190-3-1
Tube shape	Cubic tube	Cylindrical tube	Cubic tube
Tube size	7500* 300* 700 (mm)	7500* Φ220 (mm)	6000* 190* 60 (mm)
Tube material	310S welding	310S Centrifugal casting	310S integral drawing

Boat layers	Double stack	Single	Single
Heating zone	5 zones	4 zones	3 zones
Rated power	240 KW	240 KW	160KW
Design max. temperature	1050°C	1000°C	1100°C
Continuous Working Temperature	≤950°C	≤900°C	≤1050°C
Nitrogen protective	None	Yes	None
Hydrogen flow	10-50 Nm ³ /hour • tube	10-60 Nm ³ / hour • tube	10-50 Nm ³ /hour • tube
Hydrogen pressure	8~15KPa	8 ~15KPa	8 ~15KPa
Compressed air pressure	≥0.6MPa	≥0.6MPa	≥0.6MPa
Control system	Programmable controller, intelligent temperature controller, man-machine interface, automatic control of the whole process	Programmable controller, intelligent temperature controller, multiple man-machine interfaces, automatic control of the whole process	Programmable controller, intelligent temperature controller, man-machine interface, automatic control with feeding pusher
Equipment installation space (L* W* H)	14300* 3200* 2050 (mm)	14300* 3200* 2050 (mm)	12000* 1832* 2000 (mm)
Equipment total weight	Approx. 30t	Approx. 30t	Approx. 20t



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