Mist CVD Equipment for Oxide Films

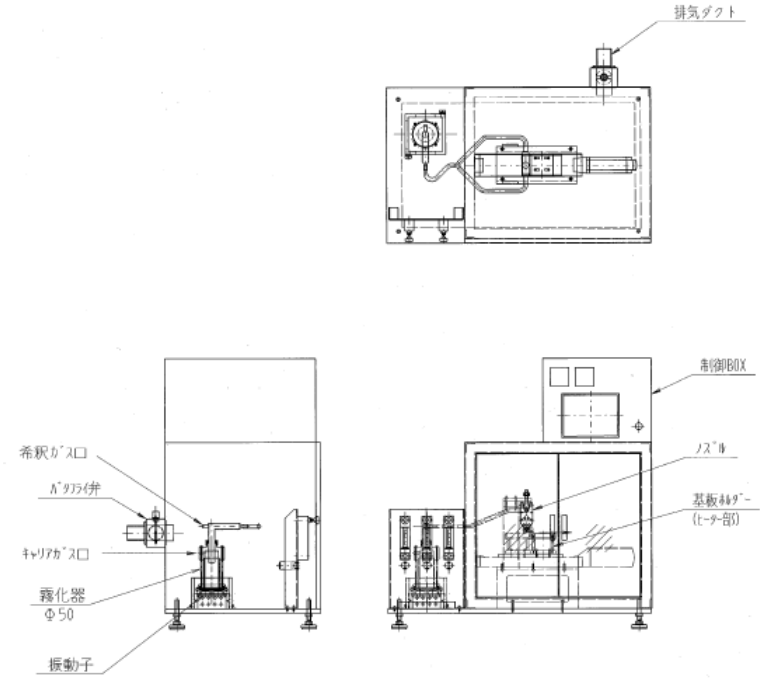
MODEL：TK－700

TK-700 is a CVD equipment by which oxide films are formed from a few micron sized mist particles from solutions under atmospheric pressure.

This equipment has a system in which flow of gases with mist can be controlled and also the kind of flow gases can be changed. The temperature applied can be raised to 700℃and the crystallization of films is improved by heating.

Characters of the equipment

A kind of CVD equipment	This equipment is a kind of CVD equipment used under the atmospheric pressure.
Applying the Mist method	This equipment is based on the Mist method in which a few micron sized mist particles from solutions are carried into substrates
Easy handling	Operation of this equipment under the atmospheric pressure is quite easy.
Wide preference for raw materials used	In the case of MOCVD, the kind of available raw materials is limited and conditions to form films and so on are specialized. Also, large numbers of raw materials are toxic chemical. In the case of mist-CVD method, safe materials can be used and dissolved in water or alcohol families. After the solutions are adjusted on concentration and viscosity, the mist is raised from the solution by oscillator, and then changes to films on substrates heated. Even if favorable metal organic materials are not obtained, if a solution with metal elements will be prepared, using mist from the solution a film can be formed under atmospheric pressure.
Available for different kinds of oxide films	Many different kinds of starting materials can be used, so that many kinds of oxide films are produced.
Wide range of heating condition	The temperature of substrate surface reaches to 700℃
Controlled flow of mist (This technique is patented)	Mist is controlled in laminar flow. A new system to control particles of mist was invented, although it is difficult to control mist particles in flowing gases. So that, homogenous films are obtained along the direction of width.
High effective utilization of raw materials	Raw materials are consumed in a high efficiency by expanding the narrow space upon the substrate in which some chemical reactions happen.
Control of atmosphere around substrate	The narrow space upon substrate behaves like a quasi-closed space even under atmospheric pressure by improving on the system of gas flow.
Simplicity of cleaning the equipment	Assemblage and cleaning of the equipment are without difficulties because the equipment doesn't have a vacuum system.



Specifications of the product	
Structure	Mist generator、Control system of gas flow (mixing nozzle, film forming zone etc.)、Holder for substrates、Moving system of heater zone、Electric control system
Mist generator	Transducer : 550mA 2.4MHz 2sources Ability : 80±20ml/hr (25℃)
Control system of gas flow	Mixing vessel of Nozzle : 100ml Channel size : W40mm×h(1～5)mm
Heater stage	Controlled heating temperature : R・T～700℃(±5℃) Useful size of substrate : 30mmx30mmx1mm Moving distance of stage : 100mm Moving speed of stage : 0.05～50mm／sec
Basic conditions	
Electric source	AC100V 10A
Gases	N2, O2 and Air MAX 1kg/cm 2
Size and weight	850 mm(W)×500mm(D)×650mm(H), 65Kg

Contact

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