
PLIEGO DE PRESCRIPCIONES TÉCNICAS

SUMINISTRO, INSTALACIÓN Y PUESTA EN FUNCIONAMIENTO DE UN “GLOVE BOX SYSTEM FOR THIN - FILM DEVICE MANUFACTURING” PARA EL LABORATORIO DE ICFO, MEDIANTE PROCEDIMIENTO ABIERTO NO SUJETO A REGULACIÓN ARMONIZADA

**El presente contrato podrá ser financiado con fondos del proyecto
“LESGO”**

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CLÁUSULA 1. Objeto del contrato

El presente contrato tiene como objetivo el Suministro, instalación y puesta en funcionamiento de un “GLOVEBOX SYSTEM FOR THIN-FILM DEVICE MANUFACTURING” para el laboratorio de ICFO.

Glovebox system for the manufacturing of thin-film devices within the inert atmosphere, consisting of two interconnected parts: one for thin film device processing and one for thermal evaporation processes.

La tipología de los artículos objeto de suministro se hallan vinculados con el CPV (Vocabulario Común de Contratación Pública), **38000000-5 Equipo de laboratorio, óptico y de precisión (excepto gafas)**.

CLÁUSULA 2. Necesidades a satisfacer con la contratación

Research lines where the ONPV group is involved require the deposition of the different layers that compose a solar cell or the photoanode/photocathode in a photoelectrochemical cell with a uniformity higher than the achievable with the spin coating and/or the evaporator system currently available to the group. Some of the materials used in such devices may degrade quickly when exposed to corrosive elements such as moisture or oxygen. As a consequence, the entire sequence of the fabrication steps for such devices with a uniformity/homogeneity covering an area of at least 15 cm x 15 cm must be performed under a nitrogen atmosphere. In accordance, we will acquire an interconnected glove box system that can integrate inside, the fabrication of such large devices using solution processing and an evaporator. Such glove-box must allow the fabrication and encapsulation of the devices in an inert atmosphere and for a remote control of the processing inside the glove-box.

CLÁUSULA 3. Technical specifications

- Glovebox module 1 with four gloves with mini antechamber and without main antechamber for thin film organic semiconductor processing. Workspace dimensions at least: 1800mm width x 900mm height x 725mm depth. Mini-antechamber dimensions at least 150mm diameter x 400mm length.
- Locking system of the front panel of module 1 with quick lock order to dismantle the panel without tools
- Glovebox module 2 with three gloves with mini antechamber and without main antechamber for thermal evaporator integration. Workspace dimensions at least: 1500mm width x 900mm height x 725mm depth. Mini-antechamber dimensions at least 150mm diameter x 400mm length.
- T-style big and small antechambers connecting the glovebox modules 1 and 2 in between, at least 850mm long and a minimum diameter of 400 mm.
- Common gas purification system for both modules for closed cycle circulation for oxygen and moisture removal (<1 ppm) consisting of filter, circulation blower, operational panel and vacuum pump. With PLC control unit, color touch operation panel.
- The O2 sensor must be calibrated on site (does not need to be sent back to the supplier's facilities)
- The O2 sensor must not be made of zirconium
- Automatic pressure regulation: pressure regulation must be controlled by a bubbler which evacuates the overpressure. This safety valve must have the capacity to work with AND without oil.
- The system only needs a vacuum pump for the antechambers - the main chamber has to work without pump.
- The systems have to work without any pedal and pressure level must not be adjusted and/or controlled by the PLC. Everything needs to automatically work thanks to the bubbler
- The glovebox must work without any chiller or exchanger
- The screen must be min 10 inches.

- Unit for removal of solvent contaminations from the glovebox atmosphere: molecular sieve or any other suitable adsorber which can be regenerated.

CLÁUSULA 4. Additional requirements

- Gas gun inside the glovebox module 1 for small particle removal from the surface of the substrates.
- Integrated sealed slot inside glovebox module 1 for the spin-coater installation for the thin-film manufacturing.
- Installed spin-coater.
- At least 4 pcs. flanges (Aluminium, single-sided) for installation of e.g. power feedthroughs / media supply lines (vacuum/gases/liquids) + 1 pc. power feedthrough 230V, 1 ph in each glovebox module.
- Glovebox module 2 should be designed with the modification according to the design of the evaporation system from any provider of high vacuum evaporator.
- The PLC must be equipped with a specific option "hand insertion help working" which allows the user to insert the hands into the gloves easier.
- The PLC must be equipped with a specific option "tightness self-test" that enable to do a tightness test in less than 7 minutes.

CLÁUSULA 5. Shipping, transport and installation

La oferta incluirá el transporte de todos los materiales, accesorios y herramientas necesarios hasta las instalaciones de ICFO, así como cualquier coste relacionado con tasas de aduanas, importación, etc.

El proveedor se encargará de gestionar y correrá con cualquier coste asociado al alquiler de vehículos o maquinaria específicos para la descarga, manipulación o traslado del material dentro de las instalaciones de ICFO hasta su ubicación final, siendo éste el laboratorio del Dr. Jordi Martorell.

DAP INCOTERMS will apply.

CLÁUSULA 6. Warranty and support

Minimum 1 year full warranty on all components, starting at system acceptance. The warranty will include the replacement of any faulty or damaged part(s) during the normal use of the system, no matter the manufacturer of the component(s) but does not have to include third party parts such as vacuum pump, and consumables. It will cover any cost related with the disassembly, transportation, reparation and re-assembly of the damaged component(s), including all travelling and living costs of the required service engineer(s). An on-site repair, or a justified alternative to reduce the system down time to the minimum, will always be the first service option. A team of properly qualified and skilled service engineers will have to be available. It will also cover the costs and the maintenance related to the machine move and installation on the new building.

CLÁUSULA 7. CE MARKING

CE Marking is required.

CLÁUSULA 8. Target price

- 123.000 € (VAT excluded)

CLÁUSULA 9. Delivery time

Delivery time between 26-28 weeks from the Purchase Order:

- Delivery time is defined as the time elapsed since the Purchase Order until the system delivery at ICFO facilities. It includes the manufacture of the system, the acceptance test at company's premises and the transportation.

The lower delivery time will be highly prioritized, as is stated in the Annex núm. 2.

CLÁUSULA 10. Financiación

The System will be funded by the programme LESGO. Results incorporated in this standard received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 951843".

Castelldefels, a fecha de su firma digital

Dr. Jordi Martorell
GL Organic Nanostructured Photovoltaics