SPECIFICATION SHEET

SUPPLY, INSTALATION AND COMMISSIONING OF A "GLOVEBOX FOR PEROVSKITE SOLAR CELL SOLUTION PREPARATION" FOR THE LABORATORY AT ICFO, THROUGH A SIMPLIFIED ABREVIATED OPEN PROCEDURE PROVIDED IN ARTICLE 159.6 LCSP

FILE NUMBER: 2024.SU.016

CLAUSE 1. Object of the contract

The purpose of this contract is the supply, installation and commissioning of a "GLOVEBOX FOR PEROVSKITE SOLAR CELL SOLUTION PREPARATION" for the laboratory at ICFO.

The types of items supplied are linked to the CPV (Common Public Procurement Vocabulary), **38000000-5** Laboratory, optical and precision equipment (except glasses).

CLAUSE 2. Needs to satisfy

As a goal of the project is to manufacture efficient perovskites solar cells, formulation of stable perovskite solution components as well as interfacial layers of these devices may provoke stability problems, and hence, processing of the solar cells in long term. Particularly, perovskite precursors are highly sensitive to oxygen and moisture present in the atmosphere. In order to avoid these problems, the formulation of perovskite solutions must be inside an inert atmosphere like nitrogen or argon. Hence, the use of the small glove-box where all the necessary perovskite solutions can be produced without exposure to air is an important asset towards achieving the project goals.

CLAUSE 3. Technical specifications

Glovebox for the preparation and handling of the solution formulations of the perovskites as well as interfacial layers within the inert atmosphere.

1. Technical specifications:

- Glovebox module with two gloves with mini antechamber and without main antechamber for perovskites solution formulations. Workspace dimensions not more than: 1200mm width x 900mm height x 725mm depth. Mini-antechamber dimensions at least 150mm diameter x 400mm length.
- The mini antechamber will be built in Aluminium.
- Gas purification system 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 O_2 sensor must be calibrated on site (does not need to be sent back to the supplier's facilities)
- The O_2 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 antechamber - 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 7 inches.
- Unit for removal of solvent contaminations from the glovebox atmosphere: activated charcoal with a minimum amount of 7 Kg.

2. Additional requirements:

- At least 2 pcs. flanges (Aluminium, single-sided) for installation of e.g. power feedthroughs / media supply lines (vacuum/gases/liquids).
- 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.

CLAUSE 4. Shipping, transport

Shipping and transport to the laboratories of Prof. de Jordi Martorell at ICFO should be included.

CLAUSE 5. Warranty

Minimum 3-year warranty on all components.

CLAUSE 6. CE Marking

CLAUSE 7. Target price

37.000,00 EUR (VAT excluded).

CLAUSE 8. Delivery time

20 weeks from the PO issued by ICFO. The lower delivery time will be highly prioritized.

CLAUSE 9. Location

Jordi Martorell laboratory.

CLAUSE 10. Funding

This contract may be financed with funds from the LIVEH2 project.

Castelldefels, at the date of the digital signature.

Prof. Dr. Jordi Martorell

Group Leader