



Centro de Estudios de Física del Cosmos de Aragón

# **TECHNICAL REQUIREMENTS SPECIFICATION FOR THE JPCAM FILTER AND SHUTTER UNIT SUPPLY CONTRACT**

**Expediente 2015/06**

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### 1. REFERENCE DOCUMENTS

	Doc title	Doc Number
RD1	Filter and shutter unit shop drawings	Complete FSU.zip
RD2	Standard DIN7168-f-R	DIN7168 - Mechanical Tolerances.pdf
RD3	Parts Spreadsheet	FSU parts list.pdf

### 2. INTRODUCTION

JPCam is a large field of view survey camera under development to be the major scientific instrument of the JST/T250 telescope at the Observatorio Astrofísico de Javalambre (OAJ) in Teruel, Spain. This instrument is broken down into three subsystems, named: Actuator System (supplied by NTE-Sener, Spain), the cryogenic camera (supplied by e2v, UK) and the Filter and Shutter Unit (FSU), that integrates the Filter Tray Assemblies. The FSU and Filter Tray Assemblies passed final design review and will now require an assortment of high precision parts to be machined using CNC wire-EDM, turning and milling machining techniques.

This document shows the technical requirements of the FSU system (excluding the filter tray assemblies), and includes all the details needed to place an accurate bid on the work. Major technical information and requirements are included in the shop drawings

which have been provided in PDF format [RD1]. Additional information can be provided as requested. Vendors shall meet or exceed all of the requirements given in the shop drawings and follow the Standard DIN7168-f-R [RD2] Mechanical Tolerances. On-site inspection of "form and fit" is required before final acceptance of all parts contained in the drawing packages.

### 3. REQUIREMENTS

The requirements described in the shop drawings are the minimum allowed. Unless otherwise noted, specific requirements regarding quantity, material, finishing, machined surface roughness and mechanical dimensions/tolerances after plating should be according to the information contained in the drawing packages.

Unless otherwise noted, use Standard DIN7168-f-R [RD2] as basic tolerances for linear dimensions, straightness and flatness. If the requirements or shop drawing details are unclear, the vendor is advised to ask for clarification. Vendor is requested to demonstrate machining capability as specified in the shop drawings.

All commercial off-the-shelf components, whenever needed, will be supplied by JPAS.

### 4. SCOPE OF THE DOCUMENT

The technical documentation package includes this document, the shop drawing package [RD1], the standard DIN7168 Mechanical Tolerances [RD2] and a parts spreadsheet [RD3]. The listed quantity of each part should be highlighted as a minimum in the offer.

### 5. DELIVERABLES

The scope of work is to fabricate, machine, heat treat, weld and coat all of the parts included in the shop drawing packages. Individual part quantities to be fabricated are specified in the shop drawings and are also included in the parts spreadsheet.

A detailed manufacturing plan is considered as a deliverable (see Section 6). Assembly of the parts mentioned above is not part of the contract. Assembly drawings are only included in the shop drawing packages for clarification of parts and subassemblies interfaces. However, low-level assembly may be required during inspection phase to assess appropriated fitting (or how well parts mate together - see Section 6).

### 6. DELIVERY TIME

Maximum delivery time shall be 5 months, with the following intermediate milestones:

- Milestone 1. Manufacturing plan delivery. The contractor shall perform a detailed manufacturing plan. This shall include all the information regarding parts manufacture timing together with the machining process and heat treatment technology used in each case. The manufacture plan shall be delivered in no more than 2 weeks after contract's signature. JPAS engineers are available for consulting during this phase.

- Milestone 2. Preliminary Acceptance. The contractor shall manufacture all the required parts. Once the work is completed, representatives from CEFCA and/or JPAS will visit the vendor's facility to inspect and verify the fabricated parts. This will constitute the Preliminary Acceptance of the parts. Some level of fit check will also be required prior to preliminary acceptance, so as to ensure all specifications have been met. The acceptance procedure will require a reasonable amount of clear space to carry out, and enough room will be needed to lay out a selection of the larger parts. Preliminary acceptance shall occur in no more than 4 months after milestone 1.
- Milestone 3. Delivery. After a successful preliminary acceptance, the parts should be packed professionally and placed in crates or on pallets for shipping (whichever necessary). The parts should arrive at CEFCA in no more than 2 weeks. All parts are required to be clean and free of foreign material prior to being wrapped or padded.

#### 7. DELIVERY ADDRESS

The delivery address is:

#### **Observatorio Astrofísico de Javalambre**

El Pico del Buitre (40° 02' 28.67" North, 01° 00' 59.10" West)  
Arcos de las Salinas, TERUEL - SPAIN

Zaragoza, a 30 de marzo de 2015  
El Gestor del Contrato

  
Fdo. Mariano Moles Villamate