

INTERFACE CONTROL DOCUMENT (ICD)	Doc. No. SP-391-001-45 R0	LUSI SUB-SYSTEM XPP
LUSI XPP Instrument to DCO ICD		
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R0	29aug08	Initial release	

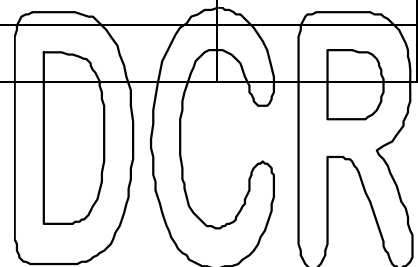


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1. Scope

This document defines the hardware interface between LUSI XPP (WBS 1.2) and DCO (WBS 1.5).

2. DCO Hardware Overall Lengths

Individual DCO device assembly hardware will fit within an overall length less than or equal to the total length of the vacuum chamber for that component. This length includes the fine alignment supports.

It will be the responsibility of the cognizant engineer to insure the proper fit and adequate clearance of any device assembly with elements that exceed the envelope established by the overall vacuum chamber length.

3. Support Interface Datums

Two support interface datum surfaces will be established for the XPP support strongbacks.

The XPP support strongbacks will be designed such that either interface datum surface will be available, at any “Z” position, with minimal hardware modifications.

For obvious reason only one interface datum will be available at a given component fine alignment support location.

Reference figure 1:

3.1. Upper Datum Surface

The upper interface datum surface is located 10 inches below nominal beam center. This datum surface has a width of 20 inches, centered on the vertical beam centerline. The upper datum surface will be able to accommodate hardware wider than 20 inches at any elevation above the nominal datum surface (10 inches below beam center).

3.2. Lower Datum Surface

The lower interface datum surface is located 16 inches below nominal beam center. This datum surface has a width of 16 inches, centered on the vertical beam centerline. The lower datum surface will be able to accommodate hardware no wider than 16 inches for an elevation extending 6 inches

above the datum surface (16 to 10 inches below beam center). The lower datum surface will be able to accommodate hardware wider than 16 inches at any elevation above a point 10 inches below beam center.

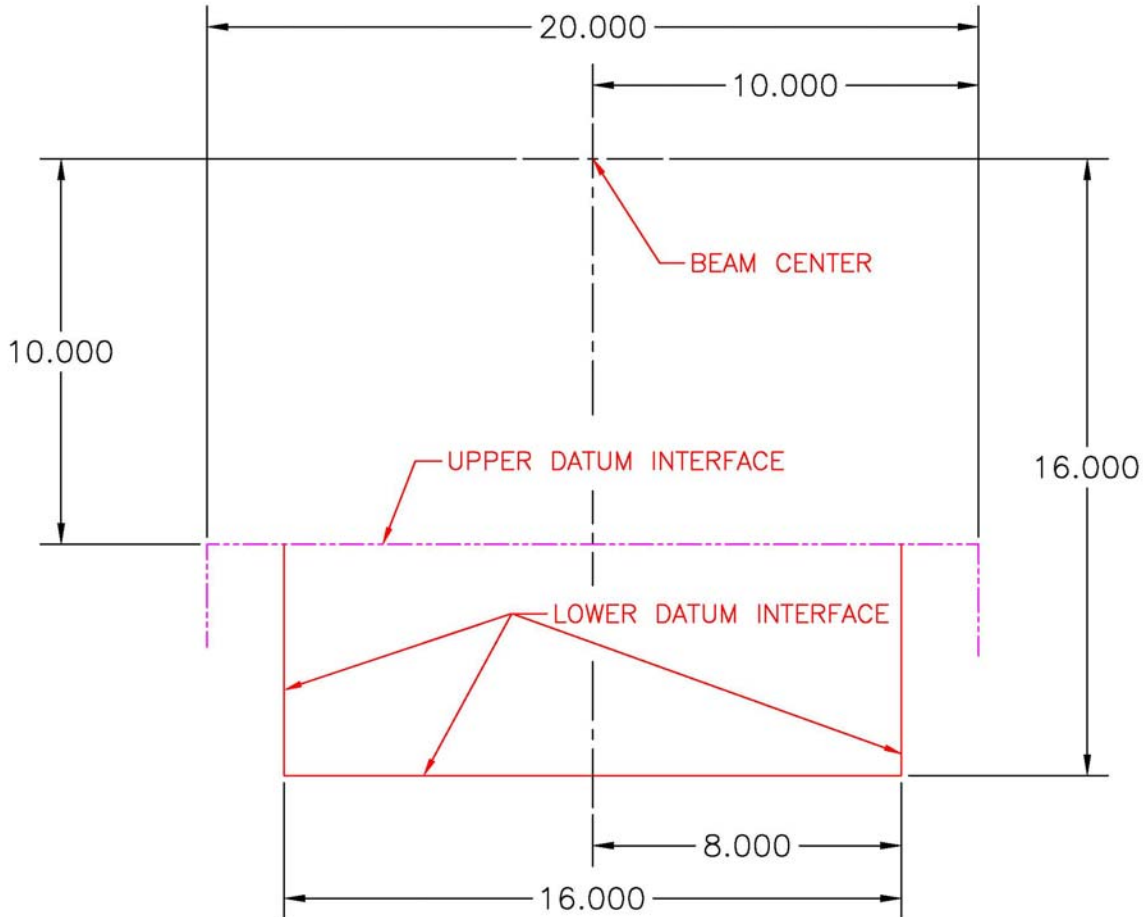


Figure 1: interface Datum Surfaces

4. Component Fine Alignment Support Hold Down Features

Both interface datum surfaces will be provided with a tapped hole pattern available for securing DCO component fine alignment supports.

Two rows of staggered holes will be provided. One row will be spaced at 11.625 inches, the other row will be spaced at 14.00 inches. Both will be centered on beam.

The stagger pitch of the holes will be 1.75 inches. The holes will be 5/16-18 UNC-2B thread with a minimum 2 diameter depth. Judicious use of slots in the DCO component fine alignment stands will provide infinite adjustability in Z.

Reference figure 2:

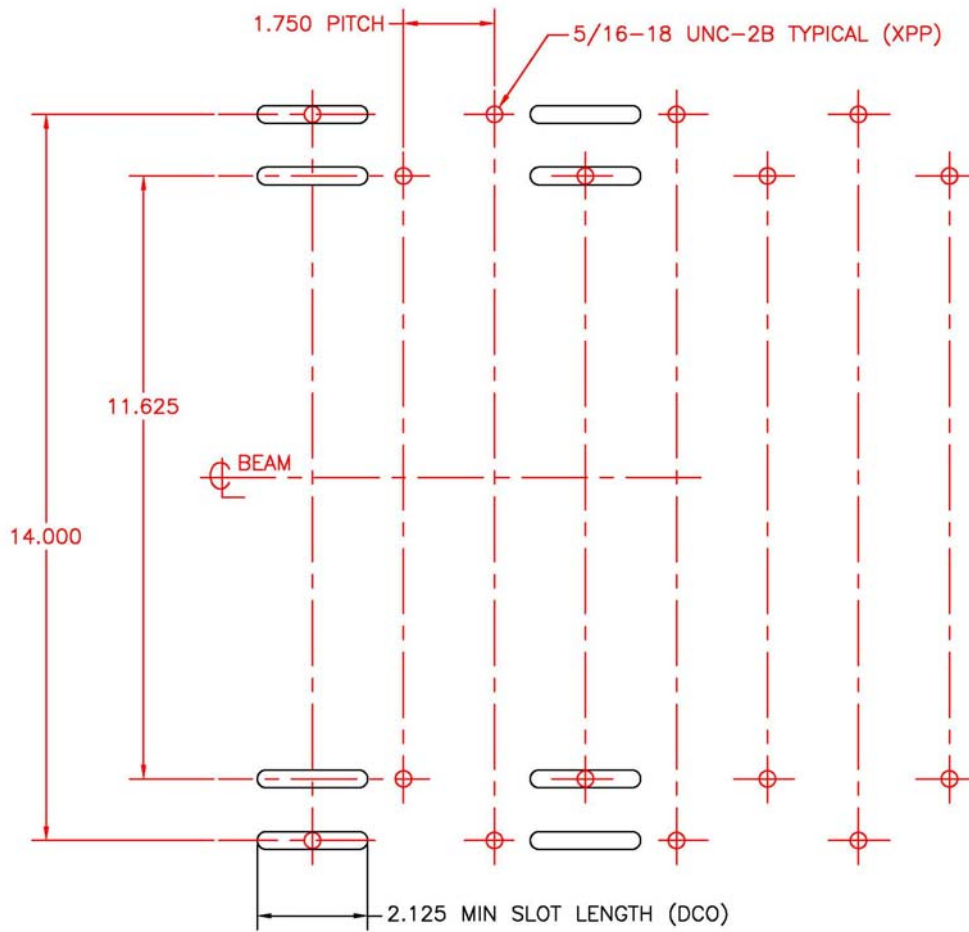


Figure 2: XPP strongback / DCO slots

5. Controls - Hardware Interface

Responsibilities for interface between DCO and controls (WBS 1.6) are defined in SP-391-001-19.

DCO will interface with controls to develop requirements for the number, size, type, termination, and any other parameters required, to complete interconnect of all diagnostic and optics elements used for XPP in hutch 2 and 3. DCO or controls will provide cabling – fluid / pneumatic line – termination hardware. DCO or controls will provide power supplies, port servers and related components for electrically actuated devices. DCO or controls will provide solenoids, regulators flow controls and related hardware for pneumatically actuated devices.

Responsibilities for interface between XPP and controls (WBS 1.6) are defined in SP-391-001-22.

XPP will interface with controls to complete cable management requirements for all diagnostic and optics elements used for XPP in hutch 2 and 3. XPP will provide specialized cable management hardware such as strain relief, flexible cable carriers or like hardware.