NSO-E9600160-00-B

INTERFACE CONTROL DOCUMENT

PUMP PORT HARDWARE
TO
VACUUM EQUIPMENT

	BY	CHKED	DATE
ORIGINAL	WAC		2/16/96
REVISION			

1.0 SCOPE

This document defines the interfaces between the Pump Port Hardware (PPH) and the Vacuum Equipment (VE).

1.1 PURPOSE

The purpose of this document is to define the interfaces required to insure compatibility between the PPH and the VE.

1.2 CONTENT

This document provides the interface information for mechanical, electrical, process and dimensional interfaces associated with the connection of the turbopump and roughing skids to the pump port hardware systems.

2.0 APPLICABLE DOCUMENTS

The following documents are applicable to the interfaces between the PPH and the VE.

Beam Tube Contract	LIGO-C951080-00-B
Vacuum Equipment Contract	LIGO-C950804-00
Beam Tube Pump Port Hardware	LIGO-D950027 Rev. B

3.0 INTERFACE REQUIREMENTS

3.1 ELECTRICAL INTERFACES - INTERMEDIATE PUMP PORTS

3.1.1 460V Power Supply

CBI will provide one 460V electrical supply for the pump skids within 15 ft of the doorway into the beam tube enclosure. The CBI receptacle will be a female Crouse Hinds model no. _____ receptacle. No circuit breakers or starters are provided by CBI.

3.1.2 120V Power Supply

CBI will provide one 120V 20 amp electrical supply circuit within 15 ft of the doorway into the beam tube enclosure. The CBI receptacle will be a NEMA type L5-20R receptacle.

3.2 PROCESS INTERFACES

Cooling water, nitrogen, instrument air or shop air are not available. It is unknown, at this time whether any of these or other fluids are required by the VE supplier.

3.3 MECHANICAL INTERFACES

3.3.1 Lifting Capabilities

The pump skids should be provided with an easy method of lifting, such as a lifting eye or fork lift channels. Lifting mechanism details are provided by the Vacuum Equipment contractor on Drawing _____ for the roughing pump systems and drawing _____ for the turbomolecular pump systems.

3.3.2 Skid Movement Capabilities

The pump skids should be provided with an easy method of moving the skids over a concrete floor, such as wheels, rollers, etc.. The moving mechanism details are provided by the Vacuum Equipment contractor on Drawing _____ for the roughing pump systems and drawing _____ for the turbomolecular pump systems.

3.4 DIMENSIONAL INTERFACES

3.4.1 Dimensional References

The dimensions used in the following paragraph are based on horizontal and vertical distances from the centerline of the tube and distance from the centerline of the pump port along the tube axis.

3.4.2.1 Pump Skid Attachment Flange Location

The flange face is located at the horizontal centerline of the tube and is located 5'-0 11/16" (1.542m) radially from the center of the tube. The pump skid attachment flange face is also on the same horizontal radial line from the center of the tube as the pump port. The centerline of the tube is 3'-6" (1.067m) above the top of the floor slab. The height is then adjustable by ± 3".

3.4.2.2 Pump Skid Attachment Flange Type

The pump skid attachment flange is a 13.25" OD conflat flange mounted on a horizontal piping system. The attachment flange is provided with blind tapped bolt holes (valve body). The Pump skid flange must therefore be capable of inserting bolts through the pump flange without interference from the pump body.