

Plant Installation Utilities and Options

Electrical.

The *ShaPix Surface Detective* requires a separate 30-amp 115 volt circuit or 10 amp 220v power drop at 50 or 60 Hz. The system provides for its own power regulation and back-up via an internal UPS.

Compressed Air.

Unlike many heavy mechanical gauges and machine tools, the *ShaPix Surface Detective* uses a very minimal quantity of compressed air (less than 1 cubic foot per hour). Air is used only to maintain vibration isolation of the *ShaPix Surface Detective* measurement compartment and not for operation of any mechanical actuators.. However the inherent nature of micron-level metrology and defect detection capability requires that the air supplied be sufficient in pressure (80 psi), clean, dry and free of pressure pulses such as might be caused by other machines operating off of the same plant air supply. Coherix supplies a plant air preparation kit, including air pressure pulse and surge prevention, as an imbedded component of the *ShaPix Surface Detective*. If another brand of air preparation devices are required by a plant authorities, Coherix will provide for these in its quotation and its installation.

Ambient Air Conditions.

The *ShaPix Surface Detective* performs micron-level measurements on precision parts and assemblies. As with any such metrology and defect detection devices, it is important to maintain tempered air conditions and minimize air drafts that would either cause measured part and assemblies to change their condition during measurements or cause metrology equipment to require frequent re-calibration due to changing ambient thermal effects. Any such metrology systems should be located free and well clear of any fans, air conditioning outlets, heat sources, or doors or windows that are open to the external environment. Areas in which any such equipment is to operate should be maintained with tempered air at all times when the equipment is expected to soon be applied.

Plant Installation Equipment Options.

Coherix offers several optional equipment items for the *ShaPix Surface Detective* designed to facilitate the most efficient, safe and flexible use of this precision metrology and defect detection system. These include, among others:

- A lockable printer enclosure with observation window to permit continuous access to the 3-D color-graphic hard-copy outputs of the *ShaPix Surface Detective*. This enclosure also serves to store and protect the calibration and verification artifact devices that are recommended for periodic use with the system.
- An indicators and actuators option that may be chosen by plant authorities to augment the safety provisions already built into the *ShaPix Surface Detective*. As a class I laser system containing a full set of interlocks, the *ShaPix Surface Detective* does not require this option to meet any national or international standards, but it is available if specific plant situations impose further requirements. This option includes stack light indicators, monitoring of the isolation table pressure status and other features. If this option is required it must be specified when the system is ordered.

The Coherix logo features the word "Coherix" in a bold, black, sans-serif font. Above the letter "h" are several small, colored dots in a horizontal line, transitioning from blue to yellow.

ShaPix[®]
Surface Detective[™]

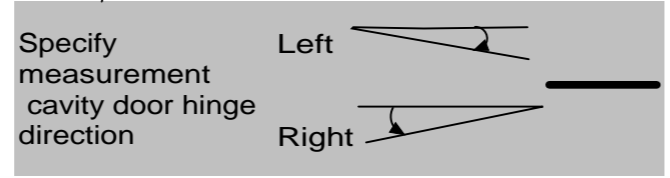
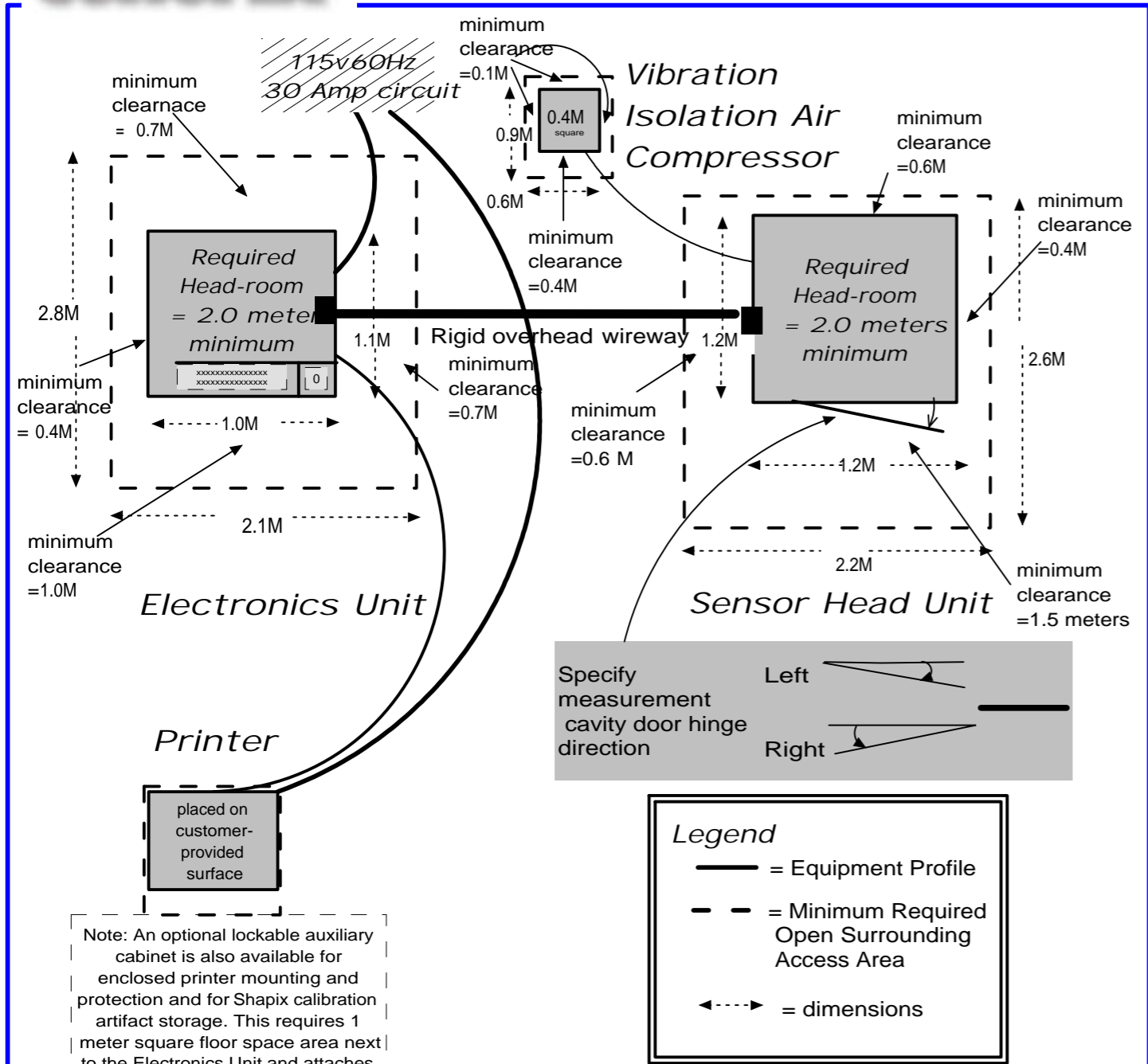
Manufacturing Facility Installation and Planning Guide

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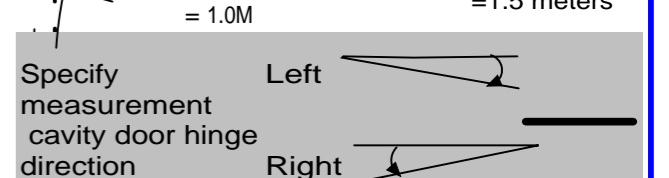
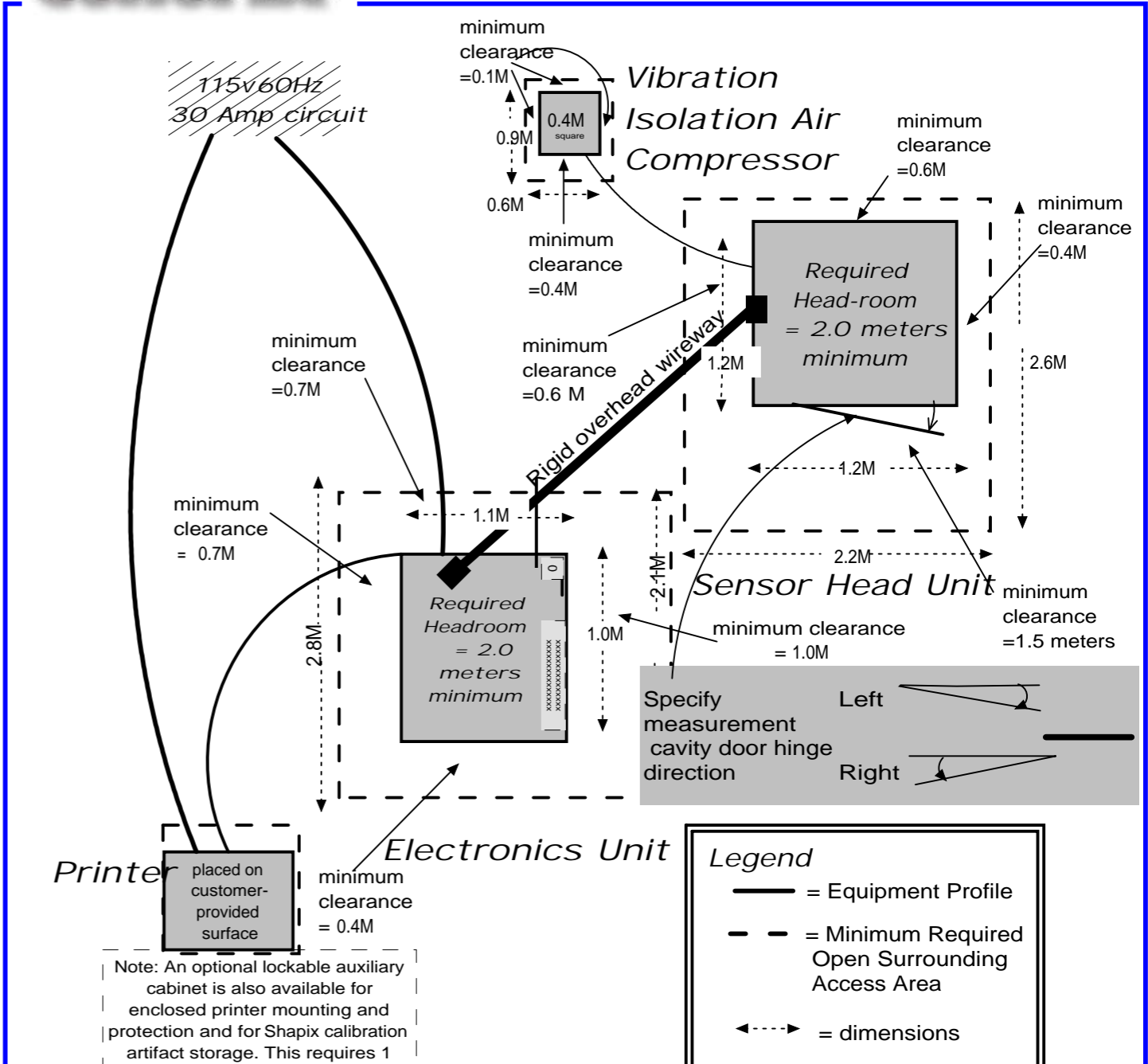
Legend

- = Equipment Profile
- - = Minimum Required Open Surrounding Access Area
- ← - - - - - = dimensions

Note: An optional lockable auxiliary cabinet is also available for enclosed printer mounting and protection and for Shapix calibration artifact storage. This requires 1 meter square floor space area next to the Electronics Unit and attaches directly to the side of that unit.

Placement requirements:

1. Electronics Unit to Sensor Head Unit overhead wireway length = 1500 or 1800 mm (no fractions between). Specify Length mm
2. Printer to Electronics Unit Separation less than 3 meters.
3. Air compressor Unit to Sensor Head unit Separation = 2 to 5 meters.
4. All units except printer to be placed on solid floor with minimum vibration.
5. Place Sensor Head so that blowing HVAC or other air does not impact unit and unit is shielded from direct sunlight or other heating elements.



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