



SEMI E47-95

SPECIFICATION FOR 150 mm/200 mm POD HANDLES

1 Purpose

This specification provides a unified form and location for pod handles to enable automatic pod handling.

2 Scope

This specification defines the dimensions and location of handles on 150 mm/200 mm pod. These provide automatic handling and take into consideration manual handling. The design of individual manual handles is open to be accomplished within the dimensional limitations of the standard.

3 Limitations

This specification applies only to automatic handling of the pod with a SMIF interface in the horizontal plane (see limitations of SEMI E19.3 and E19.4). Dimensional restrictions for manual handling are given in SEMI E15 and SEMI T4.

4 Referenced Documents

4.1 SEMI Documents

SEMI E15 — Specification for Inter-Equipment Material Transport Interface

SEMI E19.3 — 150 mm Standard Mechanical Interface (SMIF)

SEMI E19.4 — 200 mm Standard Mechanical Interface (SMIF)

SEMI T4 — Specification for 150 mm and 200 mm Pod Identification Dimensions

SEMI E44 — Guide for Procurement and Acceptance of Minienvironments

4.2 Other Documents

SEMI Minienvironments Terminology Workshop Proceedings, April 2, 1993

5 Terminology

5.1 *standard mechanical interface (SMIF)* — The interface plane between a pod and another minienvironment per SEMI E19.

5.2 *pod* — A box having a Standard Mechanical Interface (SMIF) per SEMI E19.

5.3 *box* — A protective portable container for a cassette and/or substrate(s).

5.4 *cassette* — An open structure that holds one or more substrates (wafer, masks, etc.).

5.5 *handle of a pod* — A mechanical aid designed for automatic handling of a pod, which may also be used for manual handling.

5.6 *handling of a pod* — Automatic and manual movement and/or placement of a pod.

5.7 *handling area* — Minimum free space around the pod for automatic handling.

5.8 *position notch* — Notch located at the center lines of the pod handles to allow positioning. See Figure 1 (PN1 to PN4).

5.9 *orientation notch* — Notch located at the pod handles to allow sensing the orientation of the pod. See Figure 1.

6 Requirements

6.1 Handling Dimensions: the handling dimensions for 150 mm and 200 mm pods shall be per Table 1 (see Figure 1 for dimensional locations).

6.2 A8 is given as a minimum and can be extended up to A1.

6.3 Number of handles shall be:

6.3.1 four (H1–H4 in Figure 2) or

6.3.2 two (H1 and H3) in Figure 2.

6.4 The handling area is defined by A5 (which is in reference to A1) and by B2. B1 is the minimum distance between the interface plane and the nearest extension of the handle.

6.5 The orientation possibilities of the pod are given in Figure 2 and Table 2.

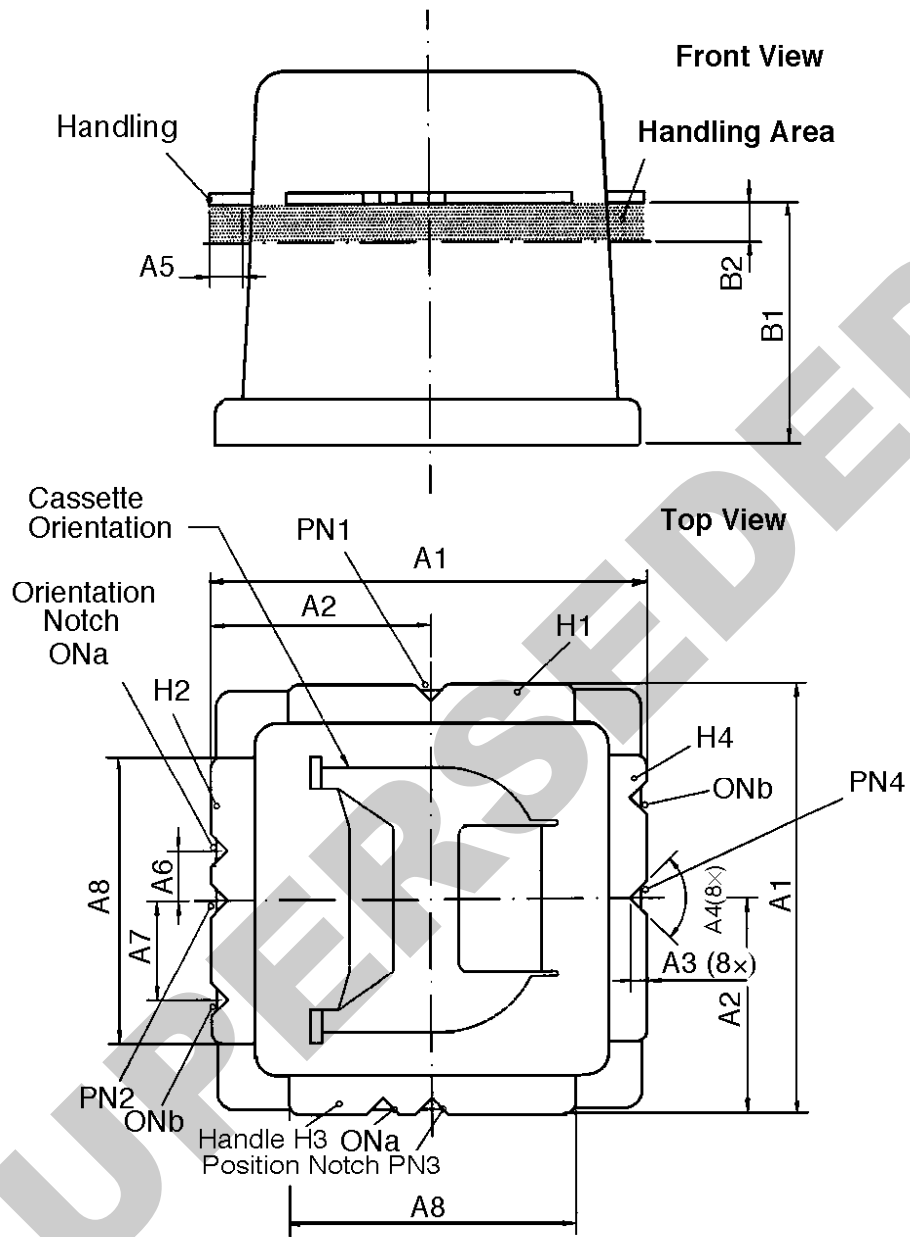


Figure 1
Pod Handling Terminology and Dimensions