

SEMI E22.1-1015

SPECIFICATION FOR CLUSTER TOOL MODULE INTERFACE 300 mm: TRANSPORT MODULE END EFFECTOR EXCLUSION VOLUME

This Standard was technically approved by the Physical Interfaces & Carriers Global Technical Committee. This edition was approved for publication by the global Audits and Reviews Subcommittee on August 31, 2015. Available at www.semiviews.org and www.semi.org in October 2015; originally published in 1992; previously published March 2009.

NOTICE: This Standard or Safety Guideline has an Inactive Status because the conditions to maintain Current Status have not been met. Inactive Standards or Safety Guidelines are available from SEMI and continue to be valid for use.

1 Purpose

1.1 The purpose of this Specification is to extend the range of SEMI E22 to include 300 mm diameter wafers.

2 Scope

2.1 This Specification provides 300 mm compatible values for all the parameters defined in SEMI E22, and defines some additional parameters.

NOTICE: SEMI Standards and Safety Guidelines do not purport to address all safety issues associated with their use. It is the responsibility of the users of the Documents to establish appropriate safety and health practices, and determine the applicability of regulatory or other limitations prior to use.

3 Referenced Standards and Documents

3.1 SEMI Standards and Safety Guidelines

SEMI E1.9 — Mechanical Specification for Cassettes Used to Transport and Store 300 mm Wafers

SEMI E22 — Specification for Cluster Tool Module Interface: Transport Module End Effector Exclusion Volume

NOTICE: Unless otherwise indicated, all documents cited shall be the latest published versions.

4 Requirements

4.1 *Wafer Transport Plane Exclusion Zone* — All fixed dimensions remain the same as for SEMI E22 with the following exception. The 25 mm and 10 mm dimensions for the rectangular space excluded from the front of the Paddle Exclusion Zone are expanded and defined by Variables I and H respectively. These variables are shown in Figure 1. Variables for 250 mm and 300 mm diameter wafers are specified in Table 1.

Table 1 Wafer Transport Plane Exclusion Zone Dimensions for 250 mm and 300 mm Diameter Wafers

Variables	Wafer Size	
	250 mm (10 in. nom.)	300 mm (12 in. nom.)
A	270 mm (10.63 in.)	320 mm (12.60 in.)
B	215 mm (8.46 in.)	250 mm (9.84 in.)
C	130 mm (5.12 in.)	225 mm (8.86 in.)
D	122 mm (4.80 in.)	147 mm (5.79 in.)
E	135 mm (5.31 in.)	160 mm (6.30 in.)
F	145 mm (5.71 in.)	170 mm (6.69 in.)
G	122 mm (4.80 in.)	147 mm (5.79 in.)
H	75 mm (2.95 in.)	154 mm (6.06 in.)
I		117 mm (4.61 in.)

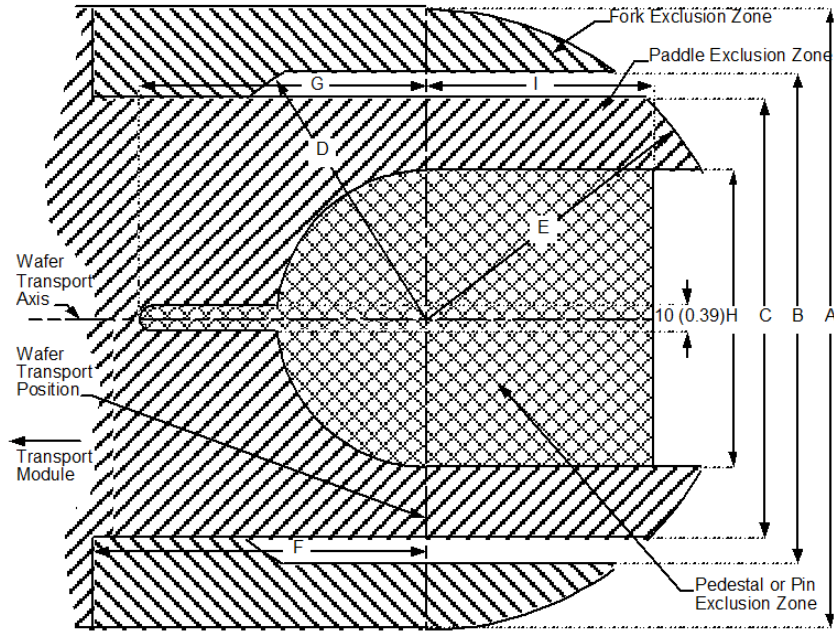


Figure 1
New Wafer Transport Plane Exclusion Zone Dimensions

4.2 *Vertical Plane Exclusion Zone* — This zone is illustrated in Figure 2, which defines dimensional values.

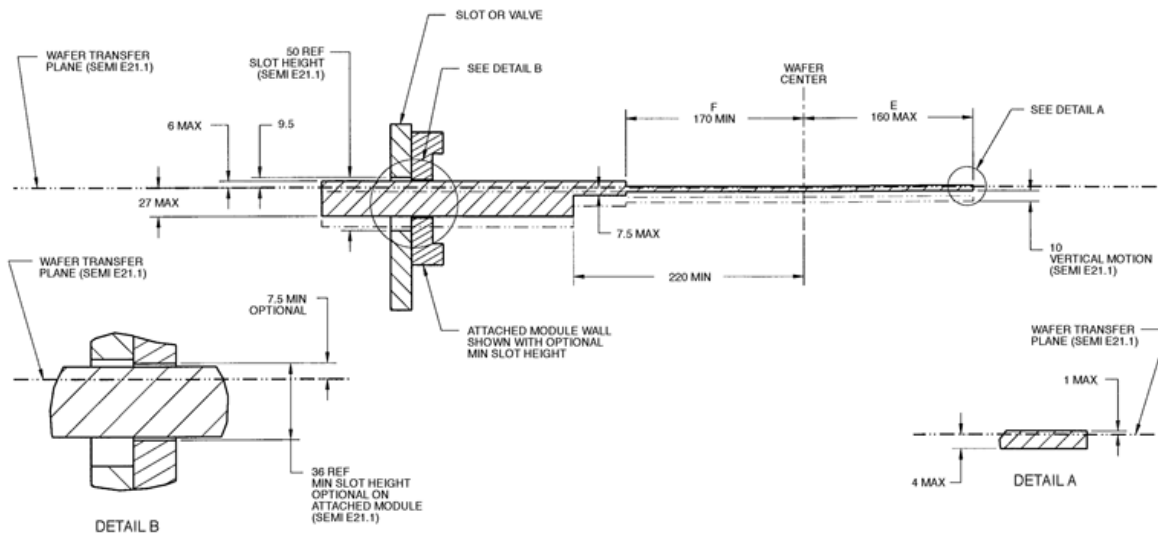


Figure 2
Proposed 300 mm Vertical Plane Exclusion Zone (Elevation View)