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(19) **United States**(12) **Patent Application Publication**
Park et al.(10) **Pub. No.: US 2024/0213053 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **VALVE STRUCTURE AND SUBSTRATE
PROCESSING APPARATUS INCLUDING THE
SAME***F16K 3/18* (2006.01)*F16K 3/314* (2006.01)*F16K 51/02* (2006.01)*H01L 21/677* (2006.01)(71) Applicant: **Samsung Electronics Co., Ltd.**,
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21/67739 (2013.01); *F16K 3/0281* (2013.01);
F16K 3/18 (2013.01); *F16K 3/314* (2013.01)(72) Inventors: **Kangmin Park**, Suwon-si (KR);
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A process chamber door for closing or opening an entrance of a process chamber through which a substrate to be process is loaded includes a seal plate including a front surface and a rear surface opposite to each other in a first direction, a connection block connected to the rear surface of the seal plate and including a central portion and two side portions connected to the rear surface of the seal plate, and a shaft connected to the central portion of the connection block. The connection block includes a first hinge groove and a second hinge groove. The first hinge groove is exposed at a bottom surface and a side surface of the connection block and the second hinge groove is exposed at an upper surface and the side surface of the connection block.

