HORIZONTAL SLIDING DOOR
CONFIGURATION FOR
MINI BULK & BULK STERILIZERS

This design consists of a solid 316L S/S inner plate and external carbon steel structural I-beams with outer channels to form the door. The door is suspended, via slide assemblies, from a heavy-duty supporting gantry positioned above the door. The gantry spans the entire travel of the door and is supported at the outermost area with a vertical support beam. The door is moved to the closed and open positions via a direct drive pneumatic cylinder. A safety strip is mounted on the leading edge of the door to stop the door if an obstruction is encountered. Sliding of the door requires a small amount of air pressure < 20 psig. Once the door is moved into position behind the retaining blocks, compressed air is applied behind the gasket, pushing it against a machined sealing surface on the doorplate, to create the seal. The gasket-retaining groove consists of a solid stainless steel block that has been welded to the end of the autoclave, milled flat, and then a precision groove machined into it. This ensures that a true retaining groove is provided for the door seal. For door unsealing, a vacuum is drawn behind the gasket, pulling it back into the groove, and away from the door-sealing surface. The door gasket is a round silicone rubber extrusion. The door is retained on two vertical sides. This design has been used on chamber cross sections as large as 153” W x 84”H.

APPLICATION
The horizontal sliding door is a good choice for applications where loads can be staged in front of the door and facility space is available for the door to slide open.