



Sliding Lid

SA Patents 2012/08045, 2016/07488

extreme security for valve chambers

A sliding lid (see **fig 1**) has the advantage of not working against gravity and can therefore be sized to close off relatively large openings in valve chambers. The opening shown in **fig 2** is 900mm x 900 mm, and is covered by a lid that is 1300mm x 1300mm in plan area (see **fig 1**), but the lid could just as easily have been 2500mm x 2500mm to secure an opening of 2100mm x 2100mm, sufficient for large valves.

The lid has three SS wheels situated in concealed pockets underneath (see **fig 3**). These wheels run on steel rails (see **fig1** & **fig 2**) that are fastened to the slab with multiple anchors. The lid slides open with minimal effort (see **fig 4**) and can be unlocked and opened in less than a minute.

The lid is 200mm thick and is made from densely reinforced 60 MPa concrete – making it extremely vandal resistant.

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Neither are vandals able to lift the lid off the rails - firstly it has considerable weight (900 kg in the case of **fig 1**), but more importantly there are two robust brackets that captivate the lid, but without restricting its sliding motion. These brackets are indicated by (a) and (b) in **fig 5** – which is a view of the lid in the closed position from inside the valve chamber. **Fig 6** shows another view of bracket (a), and in this case the lid is almost open. It is evident that the head of the bracket is situated within a lipped channel that is part of the lid.

Fig 7 shows the various elements of the lid's robust three-tier locking system, all made from stainless steel. The various elements are (d) the access tube that goes all the way through the lid; (e) the plug that seals off the access tube; (f) the cylindrical lock that locks the access tube just below the plug; (g) the locking pin that also fits into the access tube, directly below the cylindrical lock. The lower part of this pin slides into a bracket fastened to the valve chamber so preventing the lid from sliding. (This bracket is shown as (c) in **fig 5**). The plug, lock and pin are all removed from the access tube by the key assembly (h) to render the lid free to slide open.

Credits:

Project: Upgrading of Mabopane Bulk Water Supply
Client: City of Tshwane
Consultant: Tlou Engineering
Main Contractor: Ditshimega Projects

See www.concretedoorsandvaults.com for other anti-theft/vandalism products in our range, including various doors, vaults, vents, and other types of lids..

