

August 2007

Proposed re-manufacture of Viamed wall mounted resuscitation cabinet

Viamed require a cabinet to be of equal or better quality than the original cabinet: ref BA/10 from Hospital Metalcraft (Bristol Maid).

Viamed intend to incorporate the cabinet into a wall-mounted infant resuscitation system, comprising of various pieces of equipment from different manufacturers, each bearing it's own CE mark.

As such, Viamed require that the cabinet be CE marked by W Shuttleworth as a component part of the resuscitation system, substantially equivalent to the Bristol Maid component part, so as to have minimal effect on the overall CE marking of the complete system.

Some cabinets have been installed into custom-built cupboards in a hospital, and we would require a revised version to be able to be used as a direct replacement for a previously installed earlier version. The dimensions would need to be approximately the same, and the mounting holes would need to be in the same position.

Viamed would like the following minor changes to be evaluated, and for W Shuttleworth to advise a proposed solution; all of these proposed changes are intended to add a further degree of safety over the original design.

Door Hinges

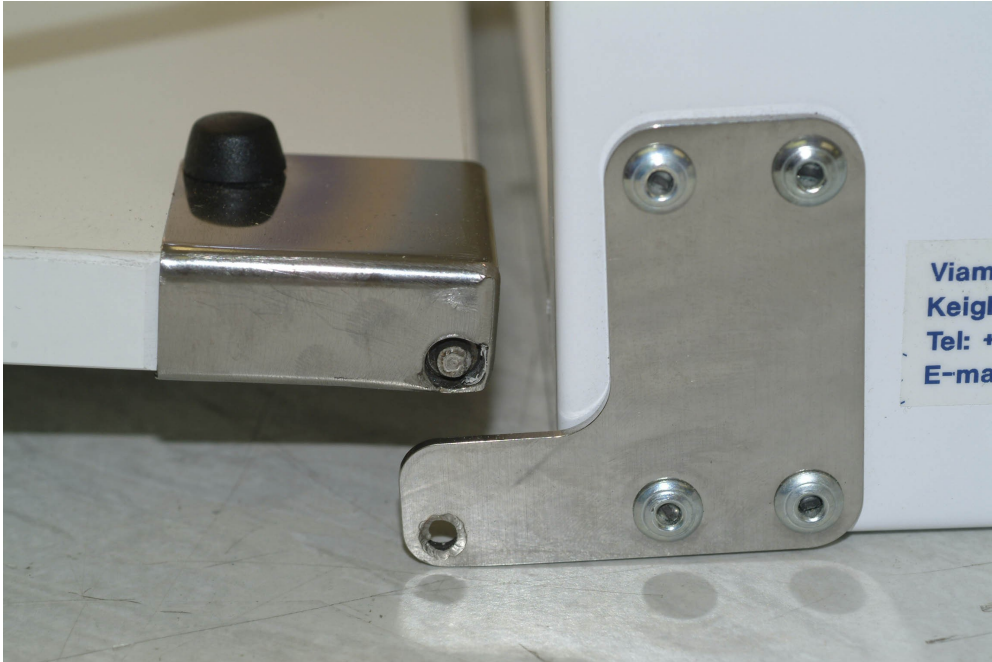
Similar design door hinge but with improvements: the original cabinet had an L-shaped bracket welded to the cabinet, (see fig.1) but some of these brackets suffered deformation due to the positioning of one of the welds. The new hinge needs to be unable to suffer this type of deformation.

Fig.1



A further issue centred on the welded pin that holds the L-bracket onto the door bracket. The hole into which the pin sits was drilled deeper than the pin itself; this had the effect of offering no resistance to movement of that pin, thus allowing the weld to weaken when subject to lateral movement. (see fig.2)

Fig.2



The hole needs to be drilled to a precise depth, or an alternative solution needs to be implemented. Additionally, the weld connecting the pin to the L-bracket needs to be sufficiently robust so as to not allow failure in this manner when subject to excessive loads and/or lateral movement.

For reference: Bristol Maid rated the cabinet door to a safe working load of 25Kg in the horizontal position. We were informed that when tested to destruction, a typical example of the cabinet withstood a load of 125Kg without failure.

Viamed would like equal or better load-bearing capabilities, as, in use, a new-born infant will be placed onto this platform whilst resuscitation is performed, and the consequences of failure are serious indeed.

Door Catches

The original Bristol Maid door catch suffered from failures on both component parts. The part of the catch on the cabinet was originally a 2-piece construction, which was easily weakened over time (see top image, fig.3) A better solution is a 1-piece moulded catch (see bottom image, fig.3)

Fig.3



The door component of the catch also suffered from weakening over time: again this was a 2-part construction with the swivelling part affixed to the base plate, by what appeared to be a process of hammering the pin flat once through the base.

A more robust catch solution is required, and if a suitably strong solution is not available, then 2 catches may be an option.

Door / Platform

The Bristol Maid design utilised a door that appeared to be manufactured from a laminated coarse grain chipboard material: this caused problems getting the screws to grip when they were removed and re-inserted; such as when replacing a failed door catch. If a denser board is available we would like to consider its use, providing it meets all regulatory requirements and does not have any negative consequences in other areas.

The platform must go to the horizontal position when lowered: we had some units from Bristol Maid that did not meet this requirement, which could potentially have serious consequences for an infant undergoing resuscitation in a non-horizontal position.

Other issues for consideration

For the immediate future, Viamed would purchase cabinets of the specification detailed above, subject to evaluation of a manufactured sample. We will order the sample when the issues raised in this document have been addressed and a comprehensive description and/or drawing provided.

For future development, we would like to consider the option of gas struts, but would like to see a proposed design drawing or 3D modelled image before commissioning a sample.

In particular, we would like to see where the gas struts would fit, i.e. inside or outside the cabinet, and how they would look in both the open and closed position.

If we choose to proceed with a gas strut design option, we would like to see a sample of the gas struts to determine whether there may be other issues, such as cleaning them, that may be required. This would be discussed at a later stage.

After the sample has been approved, and prior to manufacturing commencing on an order for a number of these unit, Viamed suggests both parties discuss issues of confidentiality, and any terms and conditions of the manufacturing arrangement.