

TE NUMBER:

DESCRIPTION:



Fit/Ergonomics

UUT easily installed & removed.

Test equipment fits installation site/workbench.

Test equipment sized appropriately (width, height and depth).

Controls and/or indicators accessible/visible while UUT is in place.

Test equipment can be easily/safely moved (Design includes handles, if necessary).



Graphical User Interface

Display required information and tools (Discuss intended use).

User friendly to operator.



Serviceability

Consider repairs and PM/Calibration activities.



Safety

- Mechanical (safety/heat/pinch points/sharp edges)

- Electrical (exposed high voltage or current)

- Chemical solvent or fume exposure

Appropriate safety measures in place (shields, interlocks, alarms, labels, etc.).



Environment

Components compatible with installation site (temperature, humidity, etc.).



Cooling

Sufficient cooling provided via ventilation and/or fan(s). (Avoid adding holes to the top of Tester).



Electrical

Power requirements fit intended use, ideally, universal (100-240V 50-60hz) power-compatible.

AC inlet protected with an appropriate fuse.

Design includes 8-32 ground stud(s) for test equipment with AC power.

Robust interface connections (consumable/wear-out/pigtail connectors use where appropriate).



Sensors/Gauges/Data Acquisition

Sensor(s), gauge(s) and data acquisition hardware are capable (sufficient resolution, speed, etc.).



~~**Plumbing**~~

N/A RD 17-Oct-2017

Minimize number and type of fittings/adapters.

Custom manifolds used only when standard adapters are unavailable.

Consumable/wear-out tubes use where appropriate.

Necessary regulators and gauges are acceptable. Design uses no unnecessary regulators or gauges.



Communication

Signal/communication connections universal (Serial/Ethernet/and/or USB) where possible.



Sustainability

Design uses current technology, e.g., new design should not require computer ISA slot.

Design uses standard Waters components (valves, pumps, fittings, power supplies, filters, clips, switches, cables) where possible.



Mechanical Enclosure (Good Design Practice)

Mechanical parts (including frame, panels*) symmetrical if possible. Exaggerate asymmetry otherwise.

Features placed on the same centerline, where possible, to simplify drafting and machining.

Threaded holes specified where applicable (4-40 for AC power entry module, AMP CPC connectors, etc.).

Component placement and spacing accommodates standard labels (5/8" or 1" spacing for small or large engraved labels, respectively).

Clip nuts used to attach panels (use 5/16" holes for clip nuts and 1/4" clearance holes for screws).*

Panel thickness does not exceed 1/8" (unless extra strength required)*

Minimize number and type of sub-panels and or fasteners.

Design includes four 8-32 threaded holes for rubber feet 5/8" from bottom panel edges*

Top panel provides a flat surface (fasten panel with flat head screws in 82° countersunk holes).*

Design on the loose, or LMC side, to simplify fabrication and prevent unnecessary interference, examples:

- Dorlec frame nominally oversized (0.060"), relative to panels.*
- Normal (or larger) clearance holes used for typical fastening, (e.g., #8 ≥ 0.194" Ø, #10 ≥ 0.221" Ø, etc).

* This item is specific to aluminum enclosures built using the Dorlec Construction System.

Notes: (Please add list of attendees as and attachment)

Request was made to test contents of NMM.

Test Engineer:

Paul D...

Date: Oct-17-2017

Design
~~Manufacturing Engineer:~~

zheng...

Date: Oct-17-2017

Test Engineering Manager:

John...

Date: 17 Oct 2017