

Guidance for manufacturer training manuals and user guides

Manufacturer documents should score well across five dimensions pertaining to content and format

Further details to follow

Component	Description
1 Introductory information	<ul style="list-style-type: none">• Title page with image of unit, supplier name, supplier model #, PQS code, and version number• Table of contents• General information on unit, its functionality, and intended use• Relevant warnings related to transportation, power source, or disposal
2 Model specifications and details	<ul style="list-style-type: none">• Parts and equipment list• Detailed technical specifications, including wiring diagram• Safety procedures, including warranty information and supplier contact information• Directions for safe transportation
3 Installation and operation	<ul style="list-style-type: none">• Detailed installation procedure, including installation checklist• Detailed operational procedures covering safe vaccine storage, proper basket positioning (if applicable), as well as ice-pack / cold-pack preparation• Disposal guidelines
4 Maintenance	<ul style="list-style-type: none">• Detailed guidance on preventative maintenance, including checklists and SOPs• Trouble-shooting guide for corrective maintenance, including table detailing common issues and step-by-step remedial actions• Typical replacement cycle for spare parts
5 Format and usability	<ul style="list-style-type: none">• Include clear graphics to illustrate tasks, with multiple view-points (e.g., top, side) and clear labelling• Be published in multiple languages (e.g., Arabic, English, French, Mandarin, Russian, and Spanish)• Be specific to a given model and avoid covering multiple devices in same document• Have a clear and consistent structure that covers installation, operation, and maintenance• Be accessible and downloadable from a central repository

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Model specifications

Component

Detailed content should include:**Parts and equipment list**

- Parts provided with illustrative graphics and details on sizes and types
- Parts NOT provided but required for successful installation and operation
- Tools provided with illustrative graphics and details on size, function and type
- Tools NOT provided but required for successful installation and operation

Technical specifications

- Size and weight of fridge, including net vaccine volume (net of trays, if applicable)
- Size and weight of auxiliary equipment (e.g., solar arrays)
- Electrical design (e.g., rated voltage, solar array if applicable, ramp-up time before safe for storage)
- Other operating parameters (e.g., acceptable ambient temperature, frequency of normal parts replacement)
- Refrigerant information
- Wiring diagram
- Warranty information, including duration, repairs covered, and any actions that would void the warranty
- Supplier contact information, including for in-country representatives if applicable

Safety procedures

- Explanation and checklist of regular tasks needed to ensure safe operations (e.g., ensure no unexposed wire / worn-down insulation)
- Detail of risks involved given failure to adhere to safety guidelines

Transportation guidance

- Specific instructions on effective transportation, including position of equipment (e.g., up-right, parts that should be disassembled prior to transport) and recommended mode of transport
- Reminders for any ambient temperature requirements to avoid damaging equipment

3

Installation and operation

Component	<u>Detailed content should include:</u>
Parts and equipment list	<ul style="list-style-type: none"> • Parts provided with illustrative graphics and details on sizes and types • Parts NOT provided but required for successful installation and operation • Tools provided with illustrative graphics and details on size, function and type • Tools NOT provided but required for successful installation and operation
Technical specifications	<ul style="list-style-type: none"> • Size and weight of fridge, including net vaccine volume (net of trays, if applicable) • Size and weight of auxiliary equipment (e.g., solar arrays) • Electrical design (e.g., rated voltage, solar array if applicable, ramp-up time before safe for storage) • Other operating parameters (e.g., acceptable ambient temperature, frequency of normal parts replacement) • Refrigerant information • Wiring diagram • Warranty information, including duration, repairs covered, and any actions that would void the warranty • Supplier contact information, including for in-country representatives if applicable
Safety procedures	<ul style="list-style-type: none"> • Explanation and checklist of regular tasks needed to ensure safe operations (e.g., ensure no unexposed wire / worn-down insulation) • Detail of risks involved given failure to adhere to safety guidelines
Transportation guidance	<ul style="list-style-type: none"> • Specific instructions on effective transportation, including position of equipment (e.g., up-right, parts that should be disassembled prior to transport) and recommended mode of transport • Reminders for any ambient temperature requirements to avoid damaging equipment

4

Maintenance

Component

Detailed content should include:

Preventative maintenance

- Checklists for preventative maintenance tasks for both core equipment (e.g., cabinets) and auxiliary devices (e.g., solar arrays, vaccine baskets), for the following time periods:
 - Daily (e.g., temperature readings)
 - Weekly (e.g., remove condensation water)
 - Monthly (e.g., clean the seal)
 - Yearly (e.g., evaluate need to replace spare parts)
- SOPs and job aids for preventative maintenance that are consistent with WHO recommendations
 - Preventative maintenance tasks should be separated into: (a) tasks that can be completed by a health worker and (b) those that require technicians to perform
 - Instructions should include actions to take in event of device failure (before full repair is performed)
- Instructions for protecting vaccine potency while performing preventative maintenance (e.g., when cleaning interior of cabinet)

Corrective maintenance

- Trouble-shooting guide, including:
 - Clear schematics to diagnose cause of operating issues (e.g., in tree-and-branch form)
 - Explanation of whether a health worker or trained technician is needed to complete the maintenance
 - Necessary tools for typical maintenance activities, including expected time to complete
 - Step-by-step instructions for taking remedial actions
- Instructions for protecting vaccine potency while performing corrective maintenance, as well as indications when operating issues risk impairing vaccine potency (e.g., persistently malfunctioning door seal)

Spare parts