

INSTALLATION AND OPERATING MANUAL

STAINLESS STEEL FLOOR STANDING ELECTRICAL CABINETS (MFSS RANGE)

v1.0



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GENERAL INFORMATION

1. Introduction

The Stainless Steel Modular Freestanding Series (MFSS) is engineered for applications demanding both robust mechanical protection and high corrosion resistance. Constructed from stainless steel (typically 304 or 316 grades), these enclosures are suited to food & beverage, water treatment, coastal, marine, chemical and pharmaceutical industries.

This manual provides instructions for safe handling, installation, wiring and maintenance to preserve structural integrity and hygienic, corrosion-resistant finish.

2. Safety Information

- Installation and maintenance must be carried out by qualified personnel.
- Follow all relevant national electrical and mechanical regulations.
- Isolate all power and lock-out/tag-out before opening, wiring or servicing.
- Use PPE: gloves, safety footwear, eye protection.
- Anchor securely to prevent tipping (mandatory for large enclosures).
- Use rated lifting gear attached only to designated points.
- Keep doors/panels locked before lifting or transporting.
- Never drill, cut, weld or modify without factory guidance, can compromise structure, finish or IP rating.

3. Product Description & Specifications

Typical features of the MFSS range:

- Material: Stainless steel sheet, 1.5–2.0 mm (grade 304 for standard, 316 for harsh/coastal).
- Protection: IP55–IP66 (depending on model), IK10 impact resistance.
- Standards: IEC/EN 60529, IEC/EN 62208, IEC/EN 61439, CE/UKCA, RoHS.
- Frame: Modular stainless steel frame with baying options.
- Door: Concealed hinges, 135° opening, 4-point locking, stainless hardware, earth stud.
- Mounting Plate: Galvanised or stainless steel depending on model.
- Gasket: Food-grade silicone or EPDM, replaceable.

4. Handling, Storage & Transport

4.1 Handling:

- Always use clean lifting slings; avoid carbon steel chains directly on stainless to prevent contamination.
- Use spreader bars where necessary to avoid panel distortion.
- Lock doors and panels before lifting; protect brushed surfaces from sling abrasion.

4.2 Storage:

- Store indoors or under clean, dry cover.
- Keep stainless steel isolated from carbon steel, iron, or contaminated tools.
- Avoid damp, salt-laden environments during storage; cover with breathable film to reduce condensation.

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4.3 Transport

- Transport upright; secure with padded tie-downs.
- Protect brushed finish with plastic film or cardboard sheets.
- Prevent movement and tipping during freight with restraints at base and mid-height.

5. Pre-Installation Checks

- Confirm correct size, grade (304 or 316), and accessories supplied.
- Inspect for shipping damage, scratches or contamination.
- Check seals and gasket condition.
- Ensure site base/plinth is level and adequate.
- Confirm adequate clearance for doors, ventilation and maintenance.

6. Installation Instructions

6.1 Position & Level

- Place on level prepared base or plinth.

6.2 Anchor (Mandatory)

- Secure enclosure with rated fixings to concrete or structural steel base.

6.3 Baying / Joining (If applicable)

- Use approved baying kits; ensure frames are aligned; never lift or transport bayed suites as one unit.

6.4 Cable Entries

- Use designated gland plates; stainless or nickel-plated brass glands recommended.
- Seal unused entries.

6.5 Internal Accessories

- Fit mounting plates, rails and accessories before installing heavy devices.

6.6 Seals & Doors

- Verify uniform compression, correct door alignment, lock operation.

7. Wiring & Grounding

- Conduct wiring in accordance with electrical codes.
- Stainless surfaces should not be drilled without de-burring and passivating exposed edges.
- Bond door, mounting plate and accessories to main earth stud.
- Confirm earth continuity throughout.

8. Material Selection & Environmental Considerations

- Grade 304 is suitable for mild industrial settings; use grade 316 in coastal, marine, or chemical sites.
- Prevent “tea staining” and local corrosion by regular cleaning and rinsing, especially near salt water.

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- Avoid stagnant water on flat surfaces; fit sloping tops or rain hoods where possible.
- Prevent galvanic corrosion by isolating stainless steel from dissimilar metals (e.g., galvanised steel, aluminium) using gaskets or insulating washers.

9. Routine Maintenance

Recommended schedule (adjust for harsh environments):

Items	Action	Interval
Exterior finish	Wash with fresh water and neutral detergent; rinse and dry	3 months (mild); monthly (marine/coastal)
Seals/gaskets	Inspect, clean and replace if cracked or flattened	6 months
Hinges/locks	Lubricate with stainless-compatible lubricants	6 months
Cable entries	Check glands, seals, re-seal unused entries	6 months
Mounting plates/ fasteners	Check tightness; inspect for corrosion	12 months
Earthing	Test continuity of all bonded parts	12 months

10. Stainless Steel Surface Care & Contamination Prevention

- Clean along the grain using soft cloths, warm water and mild detergent.
- Avoid chloride-containing cleaners, hydrochloric acid, steel wool, or abrasive pads.
- Rinse thoroughly and dry after cleaning.
- To remove mild tea staining: use approved stainless steel cleaners/passivation gels.
- Protect surface from carbon steel tools, grinding sparks, swarf, and dust.
- Never allow prolonged contact with iron, mild steel, or contaminated chains/straps.

11. Troubleshooting

Symptom	Likely Cause	Remedy
Brown “tea staining” marks	Chloride exposure, poor cleaning frequency	Clean, passivate, increase wash-down schedule
Rust specks	Carbon steel contamination from tools/ swarf	Remove with stainless cleaner; prevent contamination
Water ingress	Seal damage, door misalignment, unsealed cable entries	Replace seals, realign, re-seal entries
Door misalignment	Transport impact, hinge damage	Adjust hinges, replace if bent
Lock stiffness	Lack of lubrication	Clean, apply stainless-compatible lubricant

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12. Disposal & End of Life

- Stainless steel is fully recyclable; separate components and send to recycling.
- Dispose of gaskets, plastics, electrical components responsibly.
- Recycle packaging (cardboard, plastic, foam).

13. Warranty & Support

- Warranty: 5 years against material/workmanship defects.
- Excludes: corrosion from neglect, contamination, improper cleaning, misuse or unauthorised modification.
- Support: Provide model, grade (304/316), serial (if any), site details, maintenance history, photos when requesting service.

14. Commissioning Checklist (Copy / Print)

Use this checklist as guide during installation and retain with project records.

14.1 Site & Base

- Base/plinth level and adequate strength
- Required clearances confirmed

14.2 Anchoring

- Enclosure anchored with rated fixings

14.3 Baying (if applicable)

- Kits installed, frames aligned
- Units anchored individually

14.4 Seals & Doors

- Gasket intact, compression uniform
- Door alignment checked, lock functional
- Unused entries sealed

14.5 Wiring

- Earth bonding complete
- Continuity tested

14.6 Finish

- Surfaces inspected, cleaned of contaminants
- Passivation/touch-up as required

14.7 Handover

- Maintenance schedule provided
- As-built photos taken
- Warranty/support details issued