

Service manual

One chair. A traceable build.

Automatic operation, complete cassette service, manual shutter opening, urine-vessel care and exhaust maintenance. For a prototype operated under a verified local procedure.

Release status: development

These manuals explain the R7.12 model and intended procedure.

Purchased-part envelopes, supplier interfaces and protective controls remain subject to prototype verification. They do not certify a finished medical or sanitation product.



Automatic access and manual backup

01 In automatic mode, an approaching person requests both top-lid and solids-shutter opening. Occupancy must keep both open throughout use.

02 After the user stands and leaves, the controller confirms vacancy and allows soft closure of the top lid and closure of the shutter.

03 Mix only after top-lid closed, shutter closed and cassette-home are independently confirmed. Extraction continues while the chair is unoccupied.

04 The two current front switches provide OPEN and CLOSE commands. They do not defeat occupancy, obstruction or service interlocks.



CAD source geometry. Shown pose is illustrative; image is not to scale.

CHECKPOINT

Do not use a chair whose controls close on an occupied space, whose cassette is not home, or whose verified extraction is unavailable.

A short condition check

Position and support

Confirm that the chair is stable, all four leg buttons engage fully at the same setting, arm pivots/retainers are secure, and the rear service area is clear.

Containers and seals

Check urine level and available solids capacity. Look for leaks, damaged film, loose rim, coir on sealing surfaces or a cassette that has moved from its latch.

Extraction

Confirm operation using the commissioned flow/pressure indicator, not merely fan sound. Keep the air intake, outdoor terminal and urine headspace vent clear.

Automatic controls

Run the approved empty open/close check if required by the local procedure. Record recurrent sensor, position, motor-current or fan faults; do not repeatedly reset them without investigation.

Service interval

One week is a planning interval, not a guaranteed capacity. Actual user count, urine volume, coir condition and fill level determine when service is needed. The modeled urine envelope is 10 L.

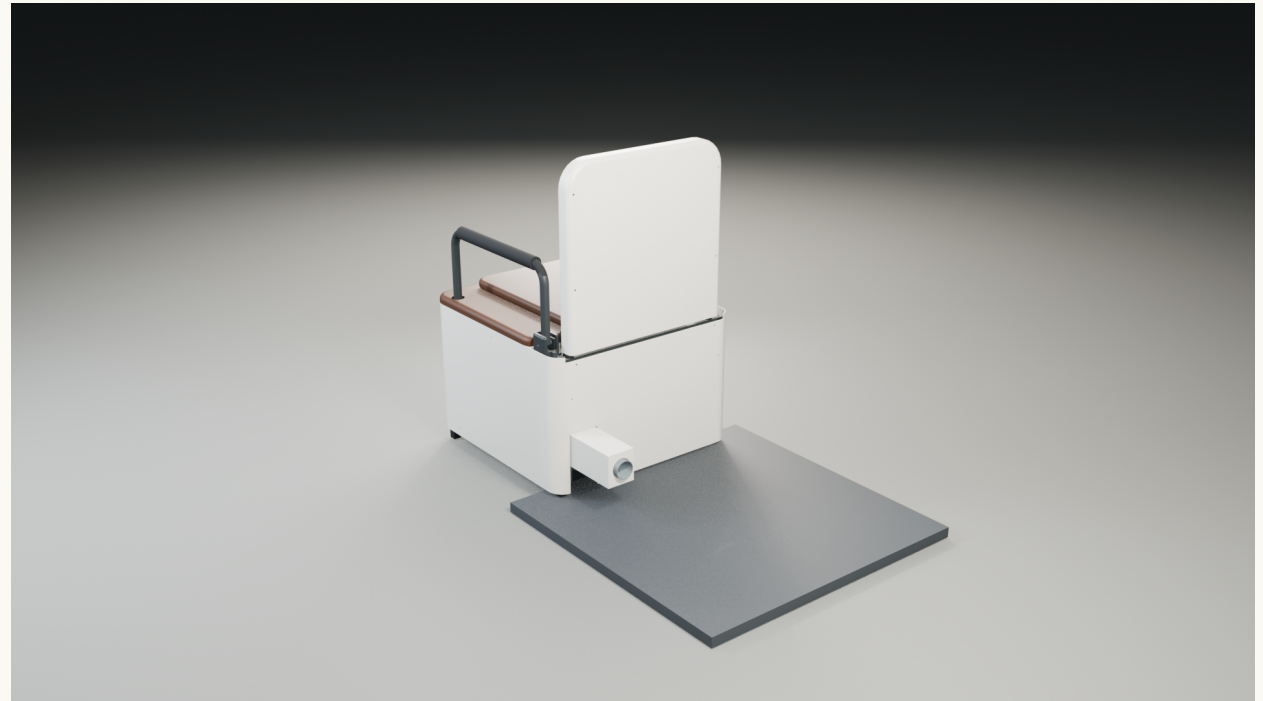
Enter service mode and support the cassette

01 Keep the chair unoccupied. Prepare a washable parking tray for the complete lid/agitator and another for the removable guard.

02 Command closure and confirm both closed positions. Enter service mode and isolate the lid, gate and mixing drives under the verified electrical procedure.

03 Keep extraction running where the service arrangement permits. If contaminated components must be opened without extraction, use the approved service location and local hygiene procedure.

04 Place a stable low platform behind the cassette before extending it. Do not rely on an unverified slide rating or allow an extended load to tip the chair.



CAD source geometry. Shown pose is illustrative; image is not to scale.

CHECKPOINT

No automatic restart during service. Use appropriate gloves and cleaning/disposal procedure for the actual service material.

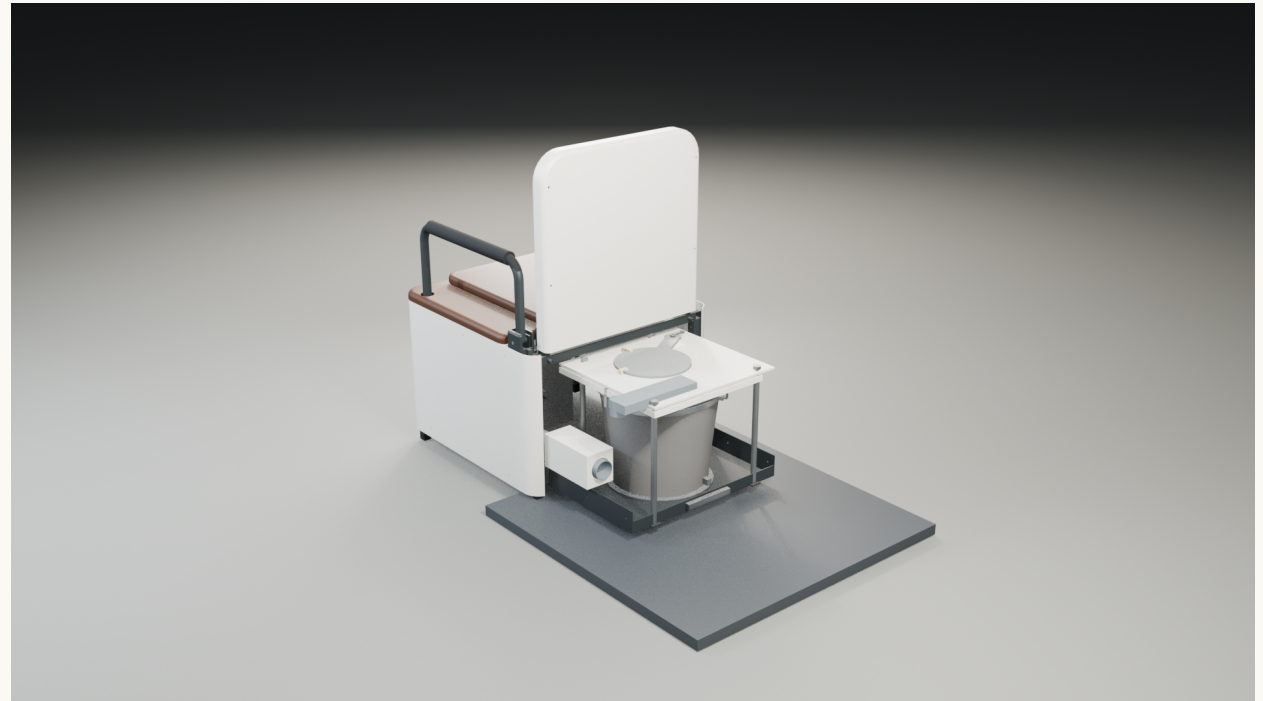
Release every connection before sliding out

01 Lift off the rear cover. Disconnect the shutter electrical connector with its supply isolated. Release the positive home latch.

02 Pull the fixed-side suction collar down 35 mm so it clears the cassette spigot. Cap the cassette service port using its service closure.

03 Retract the frame-mounted rubber tyre and secure it clear of the bin. Check that no wire, hose or drive contact still restrains the cassette.

04 Withdraw the cassette rearward up to the modeled 450 mm travel onto its support. Use the slide manufacturer's disconnect procedure only if full removal is required.



CAD source geometry. Shown pose is illustrative; image is not to scale.

CHECKPOINT

The shutter and its motor travel with the lid. The chair-mounted fan, filter, traction motor and outer slide members remain in place.

Lift the complete lid, then the open-bottom guard

01 Release all four captive lid fixings. Keep the gate closed while handling the removable assembly.

02 Lift the lid, shutter, motor and attached 316 agitator vertically until the agitator clears the bin; then move the complete assembly onto its washable parking tray.

03 Lift the rigid open-bottom liner guard and its drive straps. The contents should remain in the liner; pause if adhesion begins to lift the bag.

04 Park and clean the guard separately. Keep the external split drive band on the bin unless inspection or cleaning requires its removal.



CAD source geometry. Shown pose is illustrative; image is not to scale.

CHECKPOINT

Never pull the bag past an immersed agitator. Do not drag dirty paddles across the seal track, upholstery or operator contact surfaces.

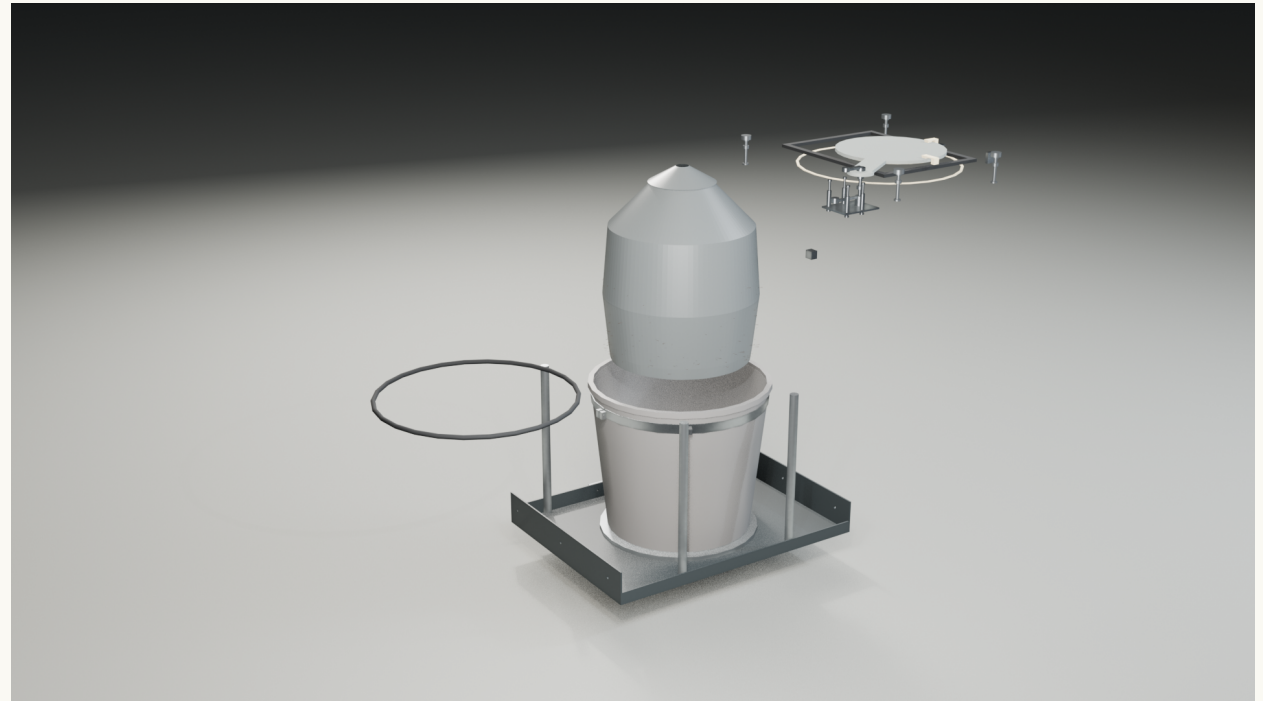
Release the rim and lift the whole liner

01 Peel the continuous flexible rim off the folded bag edge. Inspect it for cuts, hardening or loss of retention.

02 Gather the bag neck and lift the complete liner clear using its rated handling method. Avoid squeezing, snagging or exceeding its load capacity.

03 Close the bag for the locally appropriate disposal route. Do not represent the contents as finished or sanitized compost merely because they have been mixed.

04 Clean and inspect the closed-bottom bin, guard and seal-contact areas. Stop if a crack, sharp edge, damaged coating or unretained bearing is found.



Clean bag demonstration only. Parked lid/guard are separated display poses.

CHECKPOINT

Bag retention ring, rotary face seal and shutter lip are separate components. Replacing the bag does not renew a worn sealing surface.

Seat the new liner and retaining rim

01 Use a compatible heavy-duty liner whose dimensions and load rating have been verified with this bin and service process.

02 Lower it fully into the bin, open it evenly and remove trapped folds where the guard will seat. Do not stretch it across an unsupported gap.

03 Fold the edge evenly over the rim and refit X02 all around. Keep the external fold above the split drive band and clear of the tyre and bearing.

04 Lower the open-bottom guard inside the bag without trapping film. Seat its external drive straps on the band ears. Check continuous protection around the agitator sweep.



CAD source geometry. Shown pose is illustrative; image is not to scale.

CHECKPOINT

The film must not be the torque link. Verify that guard insertion and later removal cannot pull the bag off its retaining rim.

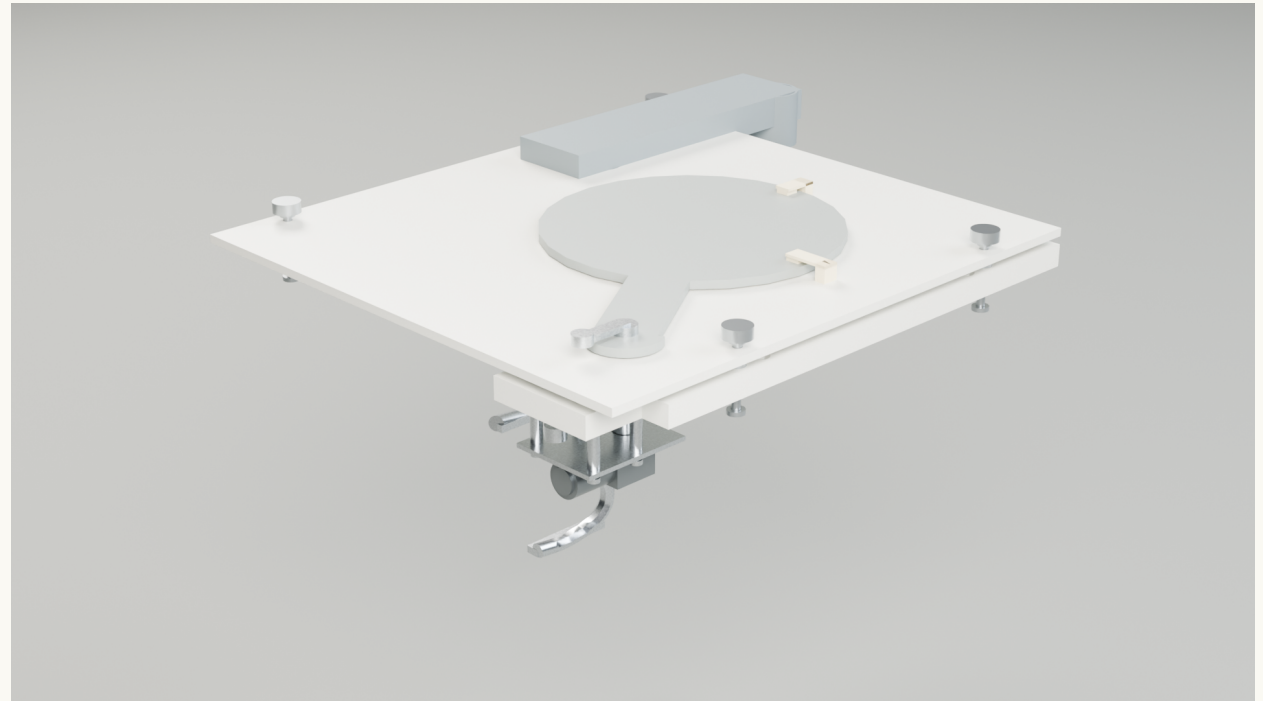
Refit the lid and manually open the shutter

01 Lower the lid and attached agitator into the guarded bin. Clean the rotary seal and gate lip, then secure all four captive lid fixings.

02 With motor power isolated, lift the manual clutch sleeve approximately 10 mm to disengage the self-locking gearbox. Use the retained lever to open the shutter.

03 Add clean coconut coir through the inlet to the validated starting mark, initially planned at about half the usable insert volume. Do not pack it against the agitator or contaminate the seal track.

04 Close the shutter with the lever, re-engage the clutch and confirm full engagement before restoring powered operation. Never force the gate against an engaged worm drive.



CAD source geometry. Shown pose is illustrative; image is not to scale.

CHECKPOINT

Half-fill is an initial design setting. Confirm real usable volume, moisture condition, running torque and mixing performance during commissioning.

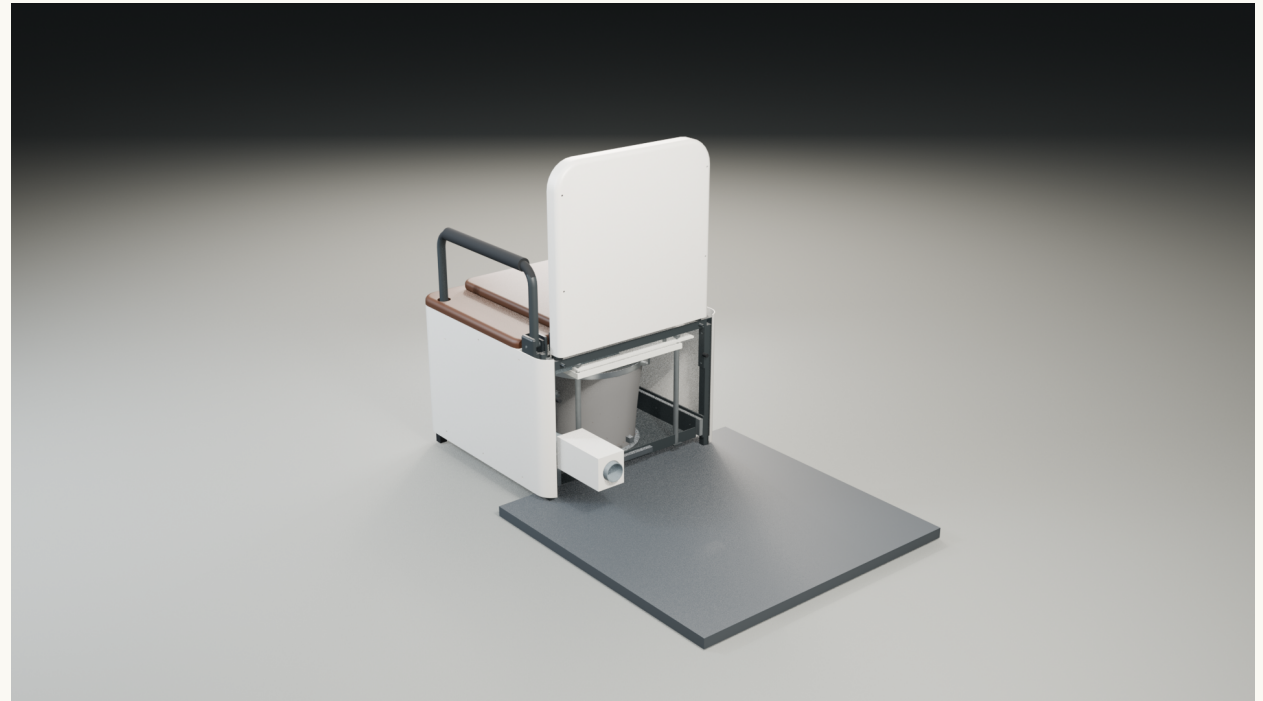
Dock, reconnect and prove the state

01 Keep the cassette supported and the tyre clear. Slide the complete closed assembly home to its stops and engage the positive latch.

02 Confirm the home switch signal as well as physical retention. A click alone is not sufficient.

03 Remove the air-port service cap and reconnect the fixed suction collar. Reconnect the shutter electrical connector, restore the calibrated tyre contact and refit the rear cover.

04 Restore power and run the approved empty functional check: approach/open, manual commands, departure/soft close, both closed confirmations, inhibited mixing while open and continuous extraction.



CAD source geometry. Shown pose is illustrative; image is not to scale.

CHECKPOINT

Return to automatic use only after the checks pass. Record the service date, liner, coir condition, seal condition and any fault.

Empty before the usable capacity is reached

01 Check actual level regularly; do not wait a week if the vessel approaches its validated maximum. FLPE treatment does not replace level control or ventilation.

02 Prevent use, isolate the relevant connections, disconnect the drain and vent, and cap the ports before removal. Do not kink or cap the fixed system in a way that defeats extraction.

03 Empty through the approved local route. Clean using the vessel and seal supplier's compatible procedure; inspect the cap, fittings and barrier surface.

04 Reconnect the drain and separate above-liquid headspace vent. Run a clean-water leak/drain check and confirm the air branch remains open.



CAD source geometry. Shown pose is illustrative; image is not to scale.

CHECKPOINT

Light-gray FLPE is specified to limit permeation. Zero odor absorption and one-week capacity are not established by the present model.

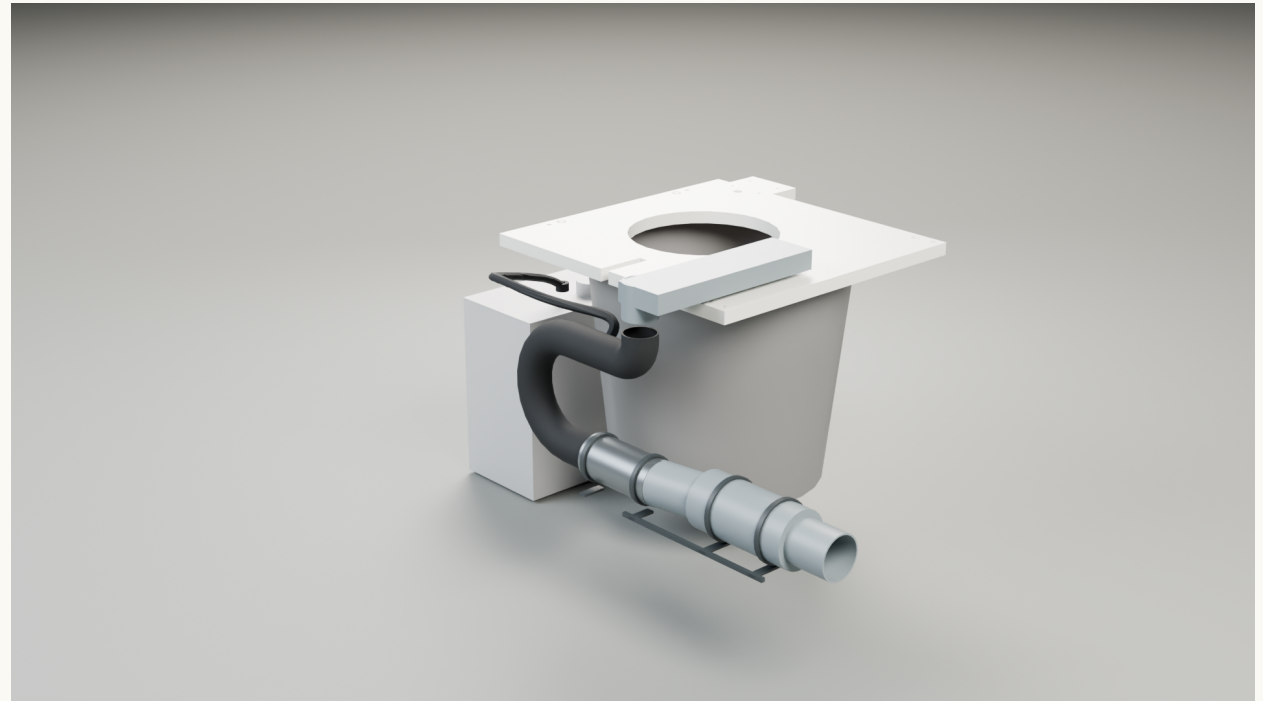
Maintain the complete air path

01 Trace both headspace pickups to the suction duct, fan, sealed filter housing and rear outlet. Keep the defined makeup-air path clear.

02 Inspect the disconnect collar, urine vent connection, fan/filter joints and outdoor terminal. Test pressure-side filter/discharge joints as well as suction-side joints.

03 Inspect filter loading and condensate collection on the commissioned schedule. Replace media to its supplier limits and measured pressure/flow behavior, not to an invented fixed life.

04 Isolate electrical power before fan cleaning or handling its impeller. Protect balance and prevent liquid entry. Restore the exact airflow direction and repeat installed flow checks after service.



CAD source geometry. Shown pose is illustrative; image is not to scale.

CHECKPOINT

A spinning fan does not prove effective extraction through a loaded filter and approximately 5 m duct. Seller maximum flow/pressure figures are not a duty point.

Stop the cause before resetting

Symptom	Immediate response	Check before restoring service
Lid/gate fails to open	Prevent use; isolate the affected drive before mechanical release.	Sensor, supply, obstruction, position feedback, coupling and clutch engagement.
Lid attempts occupied closure	Stop operation and retain the fault record.	Occupancy/obstruction function and state logic; do not bypass.
Bin does not turn / current rises	Stop mixing; do not increase spring force blindly.	Load, coir moisture, jam, guard/film clearance, seal drag and traction.
Bag lifts with the guard	Pause withdrawal and support the liner.	Adhesion, trapped folds, guard edges and removal process.
Odor or low extraction	Prevent further use until containment is restored.	Both pickups, makeup air, leaks, fan direction, filter pressure drop and duct/terminal obstruction.
Home signal absent	Keep automatic drives inhibited.	Physical latch/stops, switch flag, wiring and connector; never bridge the switch.

Record each service and commissioning check

Date / hours	Observation / measured result	Action / technician
	Urine level / user count / elapsed service interval	
	Liner / rim / guard / rotary seal / gate lip condition	
	Mixing current, traction and abnormal noise	
	Installed extraction flow / pressure and filter condition	
	Approach, occupancy, closed/home and fault checks	
	Repairs, replacement part batch and next inspection	

Use the validated local test sheet for numerical acceptance limits. No numerical limit is implied by a blank record.

What this service guide establishes

Complete intended sequence

The film and guide cover automatic access, backup switches, separate collection, linked closure, mixing, continuous extraction, rear withdrawal, lid/agitator and guard removal, complete bag/rim replacement, manual coir charging, docking and urine-vessel service.

Model maturity

The R7.12 CAD is a development design with 85 named components and 272 solid bodies in the saved geometry review. Sampled clearances are not a physical validation. Seals, clutch detail, purchased interfaces, mixing, liner retention, airflow and protective controls require prototype evidence.

Source record

Read with the matching Assembly Manual, native Fusion archive, STEP export, part register and revision record. R7.10 service instructions that leave the shutter on the chair are superseded.

Fan reference

Owner-supplied ex fan2.txt and Amazon B0F6NDNL41. The listed 6 W conflicts with 12 V at 2 A. The installation needs a measured duty point, continuous-duty confirmation and appropriate wet-air/electrical suitability.

Illustrations

Exact STEP meshes with prescribed display motion and illustrative clean coir/water markers. Bag deformation and material circulation are illustrative, not a validated process simulation. The current outer casing color is retained; internal bin colors follow the owner's instruction.