



FRDECK

EQUIPMENT SOLUTIONS LLC

TITAN-X90i

3-Deck Hybrid Gas + Electric Commercial Oven System



USER • INSTALLATION • OPERATION • MAINTENANCE • CONNECTIVITY • SERVICE

Model identity

Frdeck Equipment Solutions LLC • MODEL: Titan-X90i • SERIAL NO: Titan-X90iMVNC10 • MADE IN USA

Important: This manual is a professional-use guide assembled from the supplied Titan-X90i specification and product imagery. It is not a substitute for the final factory wiring diagram, local code requirements, certified gas/electrical installation instructions, or field inspection.

1. Product overview

The Titan-X90i is a heavy-duty, three-deck commercial baking platform designed for bakeries, pizzerias, commissaries, hotels, institutional kitchens, and other high-throughput food operations. Its dual-system architecture combines six gas burners with electric top/bottom radiant heating, independent deck controls, steam injection, persistent recipe memory, and connected monitoring.

Designed for production

Three 56 × 38 × 9 in chambers; 12 full-size 18 × 26 in sheet pans total capacity; 100–650°F independent deck control; 180,000 BTU/hr gas output plus 18.0 kW electric heating capacity.

Key selling points

- **Hybrid heat:** deep ambient volume heat from gas with precision electric radiant control for top/bottom balance.
- **High thermal mass:** 1.5 in high-density Cordierite stone decks help stabilize bake-floor temperature.
- **Smart control:** 10.1 in industrial touchscreen interface with deck-by-deck setpoints and status.
- **AI Baking Assistant:** configured thermal-drop compensation, load sensing, trend monitoring, and multi-stage recipe execution.
- **Connected operation:** dual-band Wi-Fi and Bluetooth 5.2 for telemetry, diagnostics, remote preheat, and device pairing when enabled.
- **Commercial construction:** heavy-gauge 304 stainless-steel exterior with scratch-resistant treatment and insulated viewing doors.

2. Technical specifications

Parameter	Specification
Model	Titan-X90i Oven System
System	Dual system: gas floor burners + electric top radiant deck elements
Gas fuel	Natural Gas (NG) / Liquid Propane (LP)
Gas burners	6 independent heavy-duty cast-iron burners; 2 per deck
Gas output	180,000 BTU/hr total; 30,000 BTU/hr per burner; 60,000 BTU/hr per deck
Electric heating	18.0 kW total; 6.0 kW per deck
Electrical supply	208–240V / 60Hz / 3PH + smart logic; specified draw 60A
Decks	3; each chamber 56 × 38 × 9 in
Capacity	12 full-size 18 × 26 in sheet pans total
Temperature	100–650°F (38–343°C), independently controlled per deck
Controller	10.1 in color industrial touchscreen + AI Dynamic Heat Distribution Controller
Deck material	1.5 in high-density Cordierite refractory baking stones
Steam	Integrated high-pressure steam injection per deck
Connectivity	Dual-band Wi-Fi + Bluetooth 5.2
Memory	Up to 500 multi-stage recipes/profiles
Overall size	72 W × 52 D × 78 H in
Weight	1,850 lb (839 kg); shipping approx. 2,100 lb (952 kg)
Construction	304 food-grade stainless steel; scratch-resistant brushed finish

Installation utility requirements: dedicated gas supply, 3/4 in NPT connection, rigid electrical conduit/service connection, and a certified commercial exhaust hood. Exact gas pressure, conductor sizing, overcurrent protection, grounding/bonding, disconnect location, and clearances must be determined from the final factory documentation and applicable code for the installation jurisdiction.

3. Safety & compliance

DANGER — Gas + high voltage + heat

The Titan-X90i combines combustible gas, 208–240V three-phase electrical power, high-temperature surfaces, steam, and heavy mechanical components. Installation, commissioning, gas conversion, electrical termination, and service must be performed by qualified personnel.

Before installation or service

- Lock out and tag out electrical power before opening service panels.
- Close and isolate the gas supply before servicing gas components.
- Allow decks, doors, stones, steam components, and internal metalwork to cool before cleaning or service.
- Never defeat flame sensing, door interlocks, over-temperature protection, emergency shutdowns, or other safety devices.
- Keep combustible materials, packaging, grease, and cleaning chemicals away from hot surfaces and ventilation openings.
- Use only approved replacement parts and food-safe cleaning products appropriate for stainless steel and Cordierite stone.
- If gas odor is detected: do not operate electrical switches, isolate the gas supply if safe to do so, ventilate the area, and contact qualified service/emergency personnel.

Installation / code note

Commercial cooking installations may involve building, fire, mechanical, gas, electrical, sanitation, and exhaust requirements. UL guidance notes that commercial cooking safety depends on correct installation, inspection, testing, maintenance, and cleaning, and that exhaust/hood requirements can depend on the appliance and installation. NFPA 70 is the U.S. National Electrical Code reference for electrical safety; local authority requirements always govern.

The supplied specification references NSF/ANSI 4, CSA Blue Star, and UL 197. These references are included as manufacturer-supplied specification claims; a certification mark or listing should only be applied when the specific production unit has actually been evaluated and certified by the relevant organization.

4. Product identification & reference views



Figure 1 — Front three-quarter product view. Electrical service connection is visible on the side panel. Connectivity indicators are shown on the touchscreen controls.



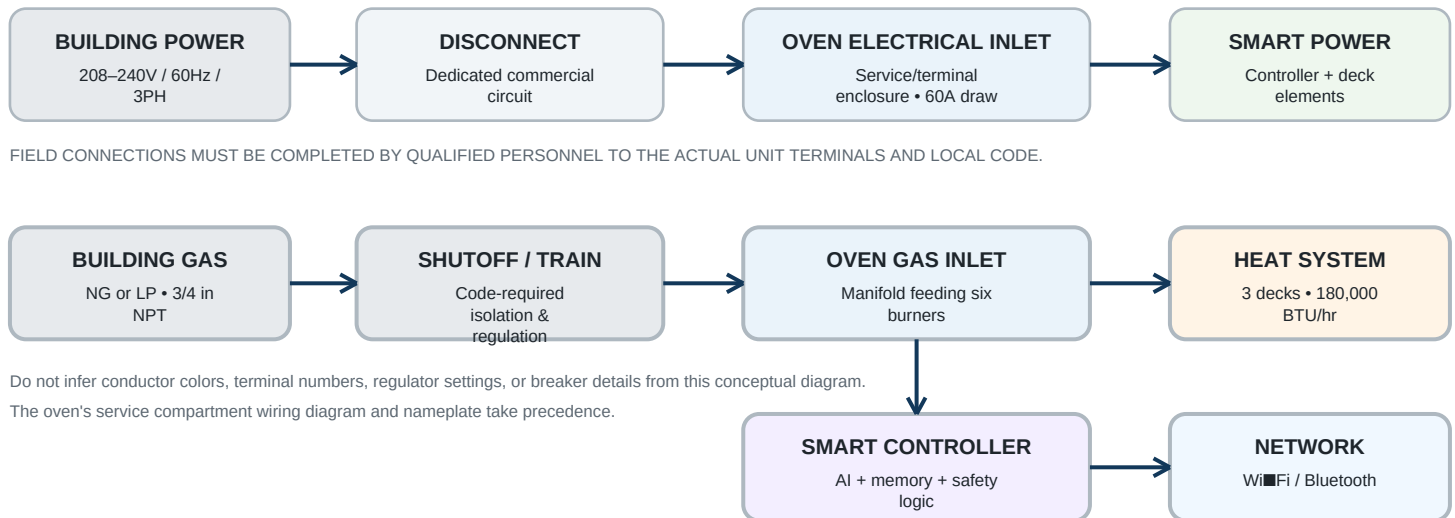
Figure 2 — Straight-on front view. Three independent decks, touchscreen controls, Cordierite stone floors, and Titan-X90i front branding.



Figure 3 — Straight-on rear view with the manufacturer identification plate and utility connection area.

5. Utility connections — how the system works

The diagram below is a functional architecture, not a field wiring schematic. It explains how building utilities reach the Titan-X90i and how the smart controller coordinates the heating system. The actual terminal labels, conductor requirements, protective devices, gas pressure settings, and grounding/bonding method must come from the final factory installation documentation and the authority having jurisdiction.



Electrical path

- Provide the specified 208–240V / 60Hz / 3PH supply from a dedicated commercial circuit.
- Provide an accessible disconnecting means as required by local electrical code and the final installation design.
- Terminate the rigid conduit/service conductors at the oven's designated electrical service enclosure using the actual factory terminal labels.
- The power system feeds the high-draw deck heating elements and the smart control electronics.
- Do not energize the oven until grounding/bonding, phase configuration, protective devices, and all service-panel covers have been verified by qualified personnel.

Gas path

- Connect the building Natural Gas or LP supply to the oven's specified 3/4 in NPT gas inlet.
- Provide the required manual shutoff, regulation, sediment protection, flexible/rigid connection, and restraint arrangement required by local code and the final installation design.
- The gas manifold distributes fuel to six independent burners, two per deck.
- The ignition system uses direct spark ignition with flame sensing and automatic safety lockout.

6. Electrical connection & commissioning

Qualified installer only

The Titan-X90i electrical system is a high-draw 208–240V / 60Hz / 3PH system. Never connect the unit from a generic appliance cord or an assumed conductor color scheme. Use the unit's actual service label and terminal diagram.

Check	Acceptance condition
Supply	208–240V, 60Hz, 3-phase source available and within local code requirements
Circuit	Dedicated commercial circuit designed for the specified equipment load
Disconnect	Accessible, correctly rated, and located as required by code / installation design
Grounding/bonding	Verified by qualified electrician
Conduit / strain relief	Rigid conduit/service method correctly installed and mechanically secured
Phase / voltage verification	Measured and documented before first energization
Enclosure	All covers and service barriers installed before operation

First-power commissioning

- Verify gas supply is isolated while the electrical system is first checked.
- Verify all doors are closed, all deck stones are clear, and no tools or packaging remain inside.
- Energize the disconnect and observe the controller boot sequence.
- Confirm each touchscreen responds and identifies Deck 1, Deck 2, and Deck 3.
- Confirm Wi-Fi/Bluetooth indicators are available without allowing connectivity setup to bypass safety commissioning.
- Only after electrical checks are complete should the qualified gas technician commission ignition and burner operation.

7. Gas, combustion & ventilation

The six-burner gas system supplies the primary ambient heat volume while electric radiant elements provide precise top/bottom finishing control. The unit is specified for Natural Gas or Liquid Propane; conversion between fuels must be performed only with the correct factory conversion parts, settings, labeling, and qualified service procedure.

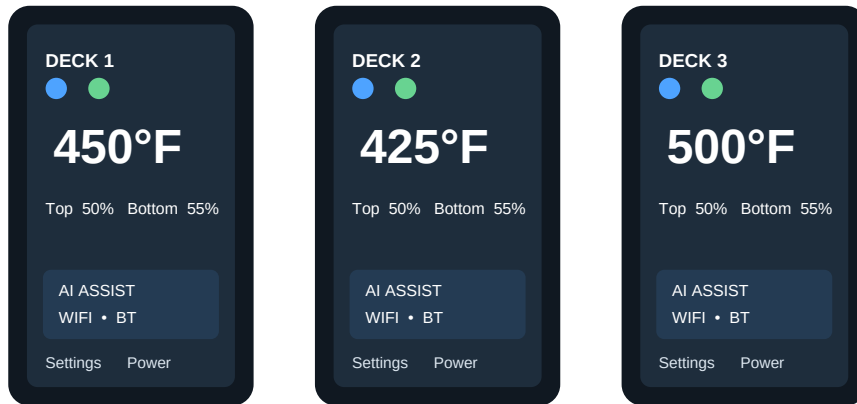
Required installation considerations

- Dedicated gas supply with 3/4 in NPT connection as specified.
- Manual gas shutoff and code-compliant gas train components.
- Correct supply pressure and regulator arrangement for the selected fuel, verified from the final factory data.
- Leak testing before operation and after any gas-line service.
- Commercial exhaust hood / ventilation system sized and installed for the appliance and local code.
- Adequate make-up air and clearance around combustion/ventilation openings.
- If the appliance is movable, use the restraint and gas connection method required by code and the final installation instructions.

Never use the oven with a suspected gas leak or a non-operating required exhaust system.

If the flame does not establish normally, allow the safety sequence to complete, do not repeatedly attempt ignition, isolate the gas if necessary, and contact qualified service.

8. Touchscreen controls



Touchscreen workflow

- 1 Select deck → set temperature.
- 2 Choose bake profile or manual heat.
- 3 Enable steam if required by recipe.
- 4 AI Assist monitors thermal recovery.
- 5 Connectivity icons show Wi-Fi / Bluetooth state.

Core screen functions

- **Deck selection:** operate each chamber independently or use a synchronized production workflow.
- **Temperature:** set each deck from 100–650°F (38–343°C) within the configured operating limits.
- **Top / bottom heat:** adjust the radiant heat balance when supported by the active recipe or manual mode.
- **Steam:** trigger the integrated deck steam cycle according to recipe requirements and installed water/steam system configuration.
- **Profiles:** load saved multi-stage recipes, including preheat, bake, steam, hold, and finishing stages.
- **Connectivity:** Wi-Fi and Bluetooth status are shown through on-screen indicators.
- **Service:** diagnostics, alerts, sensor status, and maintenance counters may be available to authorized users.

Recommended operating habit

Preheat all required decks to the target temperature before loading. Use the same rack/pan positions from batch to batch, avoid unnecessary door openings, and allow the AI thermal-recovery logic to stabilize the deck after each load.

9. Wi-Fi & Bluetooth

Connectivity is intended for remote monitoring, telemetry, diagnostics, device pairing, and—when enabled by the configured system—remote preheat or status notifications. Connectivity features should never be treated as a replacement for local operator supervision or safety interlocks.

Function	Typical workflow
Wi-Fi setup	Settings → Connectivity → Wi-Fi → select network → enter credentials → confirm connection status.
Bluetooth pairing	Settings → Connectivity → Bluetooth → Pair New Device → select the authorized device → confirm pairing.
Remote telemetry	View deck temperatures, active profiles, alerts, and completion status from the authorized management interface.
Diagnostics	Transmit approved diagnostic information to service personnel when remote support is enabled.
Network security	Use a controlled commercial network, unique credentials, current firmware, and role-based access where available.

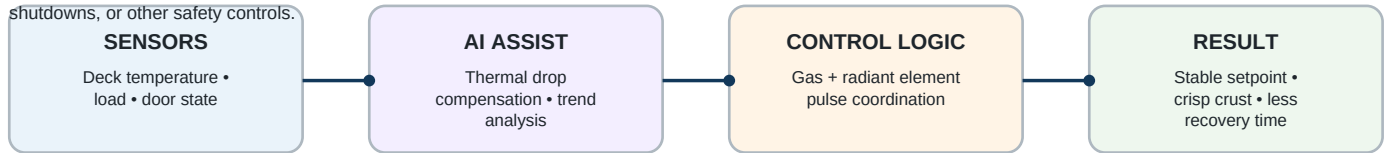
Security recommendation

Treat the oven like a connected industrial device: restrict administrator access, use strong unique credentials, keep firmware current, and place the appliance on an appropriate managed kitchen/operations network. Remote functions should be disabled if the site cannot maintain appropriate cybersecurity controls.

10. AI Baking Assistant

What the AI does

The AI layer can recommend or automatically apply configured recovery actions within the programmed safety envelope. It must never bypass flame supervision, over-temperature limits, door interlocks, emergency shutdowns, or other safety controls.



The Titan-X90i AI layer is intended to make repeatable baking easier by observing available sensor data and applying configured control strategies inside the equipment's safety envelope.

AI-assisted functions

- **Thermal-drop compensation:** detects the expected temperature recovery after door openings and adjusts available heat response within configured limits.
- **Load sensing:** uses temperature trends and operating conditions to estimate the thermal impact of a batch.
- **Persistent recipe memory:** stores up to 500 multi-stage profiles, supporting repeatable production routines.
- **Adaptive staging:** coordinates preheat, high-heat start, steam event, finishing heat, and hold stages when configured.
- **Predictive alerts:** flags abnormal recovery, connectivity issues, sensor faults, or repeated process deviations when supported by the installed software.
- **Human override:** the operator remains responsible for product quality, food safety, and correct recipe selection.

AI safety boundary

AI must not bypass flame supervision, over-temperature protection, emergency shutdown, door interlocks, or service lockouts. If a sensor is unreliable or a safety fault is active, the controller should default to the applicable safe state rather than attempting to optimize the bake.

11. How to use the Titan-X90i

Daily start-up

- Inspect the oven exterior, door seals, viewing glass, handles, stone decks, ventilation openings, and utility connections.
- Confirm the required exhaust/ventilation system is operational.
- Confirm gas supply is available and there is no odor or visible damage.
- Power the oven at the disconnect and allow the controller to complete its startup checks.
- Select each required deck and set the recipe or manual temperature.
- Preheat until each deck indicates ready/stable temperature.

Loading and baking

- Use heat-resistant gloves and appropriate commercial baking tools.
- Load pans quickly and close the door fully to minimize thermal loss.
- Start the programmed recipe or manual timer.
- Use steam only when the recipe calls for it and the installed steam supply is ready.
- Avoid repeated door opening; observe through the viewing glass whenever practical.
- Use the AI recovery indicator to monitor thermal stabilization after loading.

End of bake / shutdown

- Remove finished product and confirm all decks are empty.
- Return each deck to its configured standby or shutdown state.
- If the oven will be unused for an extended period, follow the site shutdown procedure for electrical and gas isolation.
- Do not clean hot stones with water or aggressive chemicals.
- Record any alarm, abnormal odor, ignition issue, or temperature deviation for the next service check.

12. Recipe profiles & production workflow

Profile stage	Example purpose	Operator action
Preheat	Bring stone and radiant system to stable production temperature	Wait for Ready status
Stage 1	Initial high heat / crust development	Load product and close door
Steam	Artisan crust / surface development	Trigger configured steam pulse
Stage 2	Finishing heat / bake-through	Allow automatic transition
Hold	Short production buffer	Keep within food-safety limits

Recipe design guidance

- Create one profile for each repeatable product rather than changing manual settings batch by batch.
- Record deck, temperature, top/bottom heat balance, steam duration, bake time, and load quantity.
- Validate a new recipe with a controlled test batch before using it for full production.
- Use recipe names that identify product, size, and revision (for example, "Sourdough_900g_R03").
- Lock or restrict editing of validated profiles if user roles are available.

13. Cleaning & preventive maintenance

Interval	Task
After each production shift	Remove crumbs and food debris after the oven has cooled sufficiently; wipe stainless surfaces with an appropriate food-equipment cleaner; inspect doors and glass.
Daily	Check viewing glass, handles, door alignment, stone condition, ventilation openings, and visible utility connections.
Weekly	Inspect door seals, hinges, latches, stone joints, steam outlet area, and control-panel condition; clean carefully without flooding electronics.
Monthly	Qualified personnel inspect gas connections, ignition/flame-sensing components, electrical connections, grounding/bonding, and safety devices.
Periodic / code interval	Inspect and clean commercial exhaust hood/duct system and grease accumulation according to the site's fire-code, hood manufacturer, and cleaning program requirements.

Cordierite care

Do not shock a hot stone deck with cold water. Do not use aggressive acids, abrasive pads, or saturated cleaning methods that can damage the stone or drive moisture into seams.

14. Troubleshooting

Symptom	Likely area	Operator action
No display / no power	Building supply, disconnect, service circuit	Verify disconnect status and site power; do not open live panels. Qualified electrician if unresolved.
Burner does not ignite	Gas supply, ignition, flame sensing, safety lockout	Verify gas availability and required ventilation; if ignition fails, stop repeated attempts and call qualified service.
Deck recovers slowly	Heavy load, frequent door opening, radiant setting, gas/electric system	Reduce door openings; confirm recipe/load; if persistent, record recovery behavior for service.
Steam unavailable	Steam supply, valve, configuration, water/steam system	Confirm the configured steam source is ready; do not service hot/pressurized components.
Wi-Fi offline	Network credentials, signal, router, device configuration	Check network status and credentials; reboot only according to approved procedure; do not alter safety settings.
Bluetooth won't pair	Pairing mode / prior device / permissions	Forget old pairing, re-enter pairing mode, and authorize the device.
Touchscreen unresponsive	Controller/software state	Wait for active cycle to finish; perform only the approved restart procedure; escalate if persistent.
Product uneven	Load placement, top/bottom balance, stone condition	Check pan placement and recipe settings; run a controlled test before changing validated profiles.

When to stop using the oven

- Gas odor, visible flame outside the combustion area, damaged gas tubing, or repeated ignition lockouts.
- Electrical arcing, burning odor, damaged conduit, exposed conductors, repeated breaker trips, or water intrusion into electrical areas.
- Door, glass, stone, or structural damage that could create a burn or mechanical hazard.
- Any condition in which a safety interlock or protection system is suspected to be inoperative.

15. Identification, service & parts

The permanent identification plate should be used as the primary equipment reference when ordering service, replacement parts, or commissioning documentation.

Manufacturer	Frdeck Equipment Solutions LLC
Model	Titan-X90i
Gas heat output	180,000 BTU/hr total
System type	Dual system electric + gas
Electrical supply	208V–240V / 60Hz / 3PH + smart logic
Connectivity	Wi-Fi and Bluetooth (Ai Assistance / Monitoring)
Serial No.	Titan-X90iMVNC10
Origin	MADE IN USA

For service requests, provide:

- Model and serial number.
- Deck number affected.
- Displayed alarm or error message, if any.
- Fuel type (NG or LP).
- Observed gas/electrical/temperature/steam behavior.
- Recent maintenance or recipe/software changes.
- Photos of the affected area when safe and appropriate.

16. Quick reference — operator card

START	1. Ventilation ON • 2. Gas available / no odor • 3. Power ON • 4. Select deck • 5. Set recipe/temp • 6. Preheat
BAKE	Load quickly • Close door • Start profile • Use steam only when required • Monitor recovery
CONNECT	Settings → Wi-Fi or Bluetooth • Confirm status • Use authorized devices only
AI	Use validated profiles • Review thermal recovery • Never override safety alarms/interlocks
SHUTDOWN	Remove product • Empty decks • Standby/shutdown • Cool before cleaning • Record faults
EMERGENCY	Gas odor / electrical fault / uncontrolled heat: stop operation, isolate utilities if safe, evacuate if required, and contact qualified emergency/service personnel.

Customer value summary

Titan-X90i is positioned as a premium high-volume production oven: three independent decks, hybrid gas/electric heating, stone-deck thermal mass, steam capability, recipe memory, connected monitoring, and AI-assisted thermal recovery in a single stainless commercial platform.



Frdeck Equipment Solutions LLC • Titan-X90i Oven System

17. Reference notes & document control

This manual is intentionally written as a professional product/user manual while preserving the supplied product specification. Because the exact production engineering file, wiring diagram, gas pressure schedule, certification file, software/app name, and local installation jurisdiction were not supplied, those details are explicitly left to the final factory documentation and qualified installers rather than being invented here.

External safety references used when preparing this manual

- UL Solutions commercial cooking guidance identifies relevant categories and emphasizes certification, safe installation, inspection, testing, maintenance, sanitation, gas and electrical considerations.
- NFPA 70 (National Electrical Code) is the U.S. reference for electrical safety requirements; the current edition and local amendments govern the installation.
- Commercial cooking exhaust and fire-protection requirements can involve NFPA 96, local mechanical/fire codes, and the specific hood/duct system certification.

Document control

Manual: Titan-X90i User / Installation / Operation / Service Manual • Revision 1.0 • Prepared from supplied specification and product imagery • Manufacturer: Frdeck Equipment Solutions LLC

Certification disclaimer: The supplied specification references NSF/ANSI 4, CSA Blue Star, and UL 197. This document does not itself establish, grant, or verify certification. Use certification marks only when the exact production unit is formally listed/certified and the applicable marking requirements have been met.

Technical priority: If this manual conflicts with the final factory nameplate, certified installation manual, field wiring diagram, gas conversion instructions, software release notes, or authority-having-jurisdiction requirements, the final controlled engineering and regulatory documents take precedence.