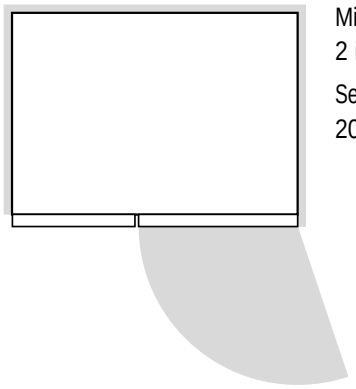
Installation

Refer to the following pages for important information regarding the installation of LCS and LCG ClimaPlus Combis. It is recommended that installation be accomplished by a certified and properly trained technician.

NOTE: When installing a ClimaPlus combi, humidity calibration must be performed. This process takes approximately 45-60 minutes. (page 62)

Site, leveling



Minimum clearance sides and back:
2 in. (50 mm)

Service clearance, left side:
20 in. (500 mm)

Clearance for door opening:

Model 6 & 10:	20½ in. (521 mm)
Model 1020:	29½ in. (749 mm)
Model 20:	28¾ in. (730 mm)
Model 40:	30¾ in. (781 mm)

1) Check for any transport damages. Should there be any signs of transport damage immediately inform your dealer/freight forwarder.

2) Check installation site. Check entrance clearance.

Minimum entrance space needed without pallet:

Model 6 & 10:	35½ in. (902 mm)
Model 1020:	49⅝ in. (1262 mm)
Model 20:	39⅞ in. (1012 mm)
Model 40:	52½ in. (1332 mm)

- Floor at installation site must be level.
- Cold water line in place. (page 63)
- 2 in. (50 mm) drain connection installed.
- Max. drain height for floor units: 4 in. (100mm)
- Electrical power supply/protective measures installed and sized correctly. (page 60-61)

3) Remove all cartons, packing materials, documents etc. from the interior cabinet.

4) Remove grid shelves/trolley from cabinet.

5) Take unit off the pallet.

- Moving unit without pallet: Sizes 6, 10, 1020 (Fig. 1)
- Moving unit without pallet: Sizes 20, 40 (Fig. 2)

Fig. 1

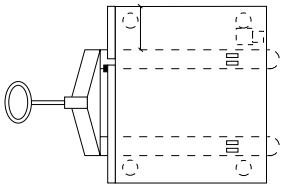
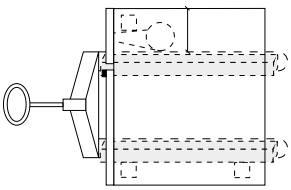


Fig. 2



continued

Unit weights:

LCS 6:	270 lbs. (123 kg)	LCG 6	335 lbs. (152 kg)
LCS 10	334 lbs. (152kg)	LCG 10	384 lbs. (174 kg)
LCS 1020	484 lbs. (220 kg)	LCG 1020	584 lbs. (265 kg)
LCS 20	686 lbs. (312 kg)	LCG 20	798 lbs. (362 kg
LCS 40	972 lbs. (442 kg)	LCG 40	888 lbs. (403 kg)

Fig. 3

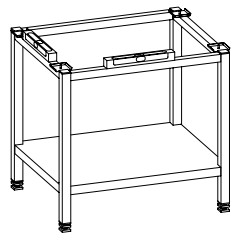


Fig. 4

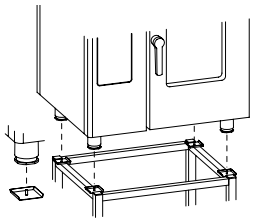


Fig. 5

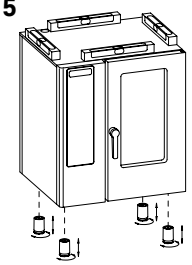


Fig. 6

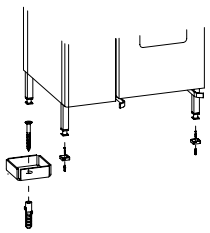
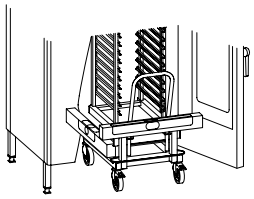


Fig. 7



6) Installation models 6, 10, 1020

- Place floor stand at the installation place and level by adjusting legs. (Fig. 3).
- Minimum clearance required to neighboring equipment or walls. (page 59)
- Place the unit on top of the stand. The unit's legs must be centered on the locating pins of the stand (Fig. 4).
- Unit must be level (Fig. 5).

7) Installation models 20, 40

- The unit must be secured against shifting on the floor by means of floor fixtures (Fig. 6). If floor fixtures are glued to the floor (use polyurethane glue or similar), remove all grease from the floor first.
- Place the unit at its final location and level by adjusting legs. (Fig. 5).
- Minimum clearance required to neighboring equipment or walls. (page 59)
- The area of floor under the unit where Mobile Oven Racks will roll in must be level or door will not seal. (Fig. 7).

Electrical

8) Electrical connection

- Connect the unit only according to the information given on the data plate.
- Observe all regulations of your local Electrical Code.
- The appliance may only be connected by a licensed electrician.
- Each appliance requires an independent fused power supply line.
- Connection via GFI circuit breaker is advisable.
- On-site installation: provide accessible all-pole disconnection device with minimum of ⅛ in. (3 mm) contact gap (not required for 120v gas units.)
- Connect appliance to ground.
- Special voltages on request. Circuit diagram is located behind the operator panel.

Connected load for electric units:

Model	KW	Amps			
		208v 3Phase	240v 3 Phase	208v 1 Phase	240v 1 Phase
LCS-6	10	28	24	48	42
LCS-10	19	53	45.8		
LCS-1020	31.5	87.5	75.9		
LCS-20	38	105.6	91.5		
LCS-40	63	175.1	151.8		

Electrical requirements of gas units:				
Model	Voltage	Phase	Cycle/Hz	KW
LCG-6	120	1	60	1
LCG-10	120	1	60	1
LCG-1020	208/240	1	60	1.5
LCG-20	208/240	1	60	1.6
LCG-40	208/240	3	60	3.5

Fig. 8

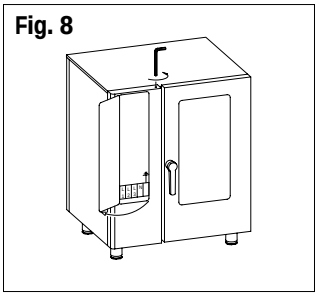


Fig. 9

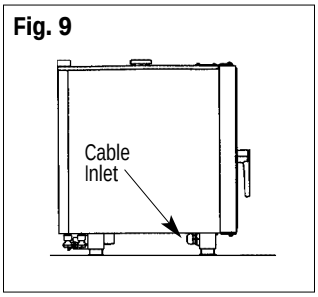


Fig. 10

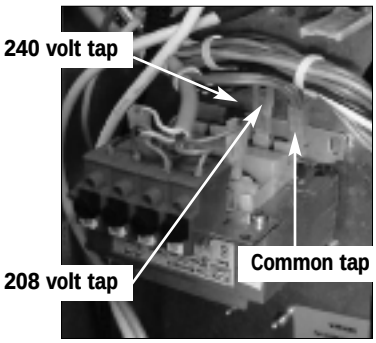
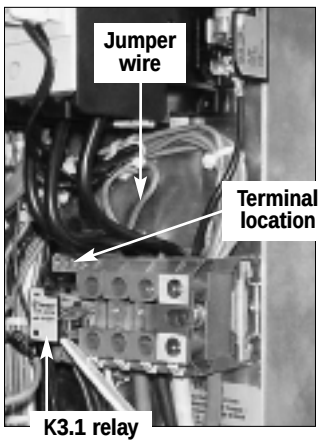


Fig. 11



Choose conductor size according above tables and your local regulations.

IMPORTANT

Gas units are voltage specific. Supply voltage must match voltage rated on data plate.

- Gas units are supplied with grounded power cord and plug.
- Electric units are NOT supplied with power cord.

To connect power supply for electric units, models 6, 10:

- Open the operator panel. (Fig. 8)
- Insert power cord through cable inlet under left side of unit to desired length and secure the cable connection tight. (Fig. 9)
- The circuit diagram is located behind the control panel.

To connect power supply for electric units, models 1020, 20, 40:

- Access power connection terminals by removing left side panel.
- Insert power supply cable through cable inlet under left side of unit to desired length and secure the cable connection tight. (Fig. 9)
- Connect supply wires as follows:

Gray terminals:	L1, L2, L3, phase sequence does not need to be observed
Blue terminal:	Neutral (if applicable)
Yellow/Green terminal:	Ground

IMPORTANT

In some areas Henny Penny Electric Combis are shipped set up for 240 volts, but can be converted to 208 volt operation. If conversion is necessary the unit must be reset and calibrated.

Convert from 240 volt to 208 volt operation

- Disconnect unit from power supply source.
- Open service door (Fig. 8) by loosening fastener at top of the unit over the control panel using a 5 mm Allen wrench. A rubber grommet must first be removed to access the bolt.
- Move transformer primary lead from the 240v tap to the 208v tap (Fig. 10).
- Open left side panel and locate relay K3.1 (Fig. 11).
- Remove the jumper wire from the appropriate terminal positions. The terminals on K3.1 relay socket are numbered. Use the chart below to determine from which terminals to disconnect jumpers.

Model	Terminal Positions
LCG-6	5 and 6
LCG-10	5 and 6
LCG-1020	5 and 6
LCG-20	6 and 7
LCG-40	5 and 6

- Once conversion has been completed, a “total reset” of the CPU-PCB must be done.

CAUTION

Record all end-user (custom) programs before undertaking a Total Reset.

- Secure all panels and covers.

Total reset

- Turn on unit.
- Press and hold IQT Sensor key, IQT key, and PROG/START simultaneously and turn unit off.
- Release all keys. Wait at least 4 seconds and turn unit on.

NOTE: With total reset procedure all custom programs are deleted. After a total reset, 12:00 or 13:00 will be indicated on the timer display. Real time must be reset. To set clock to actual time, see page 50.

Humidity calibration

- The interior cabinet must be clean. If it is not, wipe clean.
- The interior cabinet temperature must be below 122°F (50°C) and the cabinet must be dry.
- Turn on unit.
- Open cabinet door.
- Select any cooking mode.
- Access diagnostic program by pressing TEMPERATURE key, IQT Sensor key, and IQT key simultaneously until the word “VERSION” appears next to the IQT key.
- Use Central Dial to select CALIBRATE.
- Close cabinet door.
- To start calibration press PROG/START and TEMPERATURE key simultaneously.
- Calibration starts automatically and lasts 45-60 minutes.
- After calibration, unit must be switched off for 5 seconds before using again.
- During calibration, several values will be shown on the display.
- Once calibration begins, do not interrupt the process.
- Do not open door until calibration is complete.

WARNING

After calibration, very hot steam–around 392°F (200°C)–remains in the cabinet. When opening the cabinet door hot steam will escape, and burns could result.

Water supply

Fig. 12

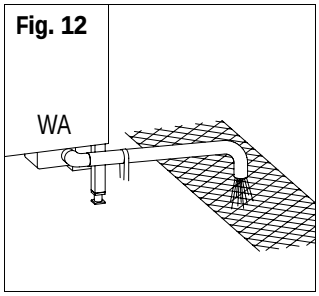


Fig. 13

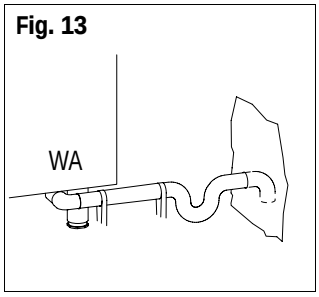


Fig. 14

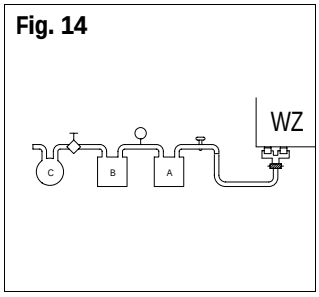
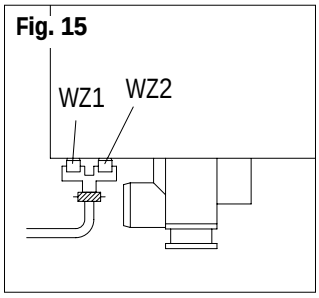


Fig. 15



9) Drain Connection (WA)

- For drain connection (Fig. 12) use only steam temperature resistant pipe, diameter 2 in. (50 mm) and constant slope 5%. No hose should be used.
- Direct drain connection is possible, ventilated gap is an integrated part of the appliance (Fig. 13).
- Drain pipe should be supported to the wall/floor.
- Max. water discharge rate during Auto Flush:11 gal./min. (0.7 liter/sec.)
- Average drain water temperature: 150°F (65°C).

10) Water Connection (WZ)

- Observe all local plumbing codes.
- Flush water line before connecting the water supply to the unit.
- Connect to cold, potable water only.
- Operational water pressure: MIN: 30 psi (200kPa) MAX: 88 psi (600kPa). RECOMMENDED: 44 psi (300kPa). Water flow must be at least 3 gal/min (12 l/min).
- Water connection supplied by customer: ½ in. pressure hose with R ¾ in. tapered fitting.
- Customer fitted shut-off valve for each appliance.
- Water conductivity: 50-2000 µS, lower conductivity on request.
- Maximum chloride concentration (Cl-): below 150 ppm (150 mgr/liter) at any time.
- For conductivity above 2000 µS or higher chloride concentration use hydrogen-ion exchanger (A in Fig. 15) in the supply water line.
- Water Redox-Potential must be below 300mV at any time.
- For higher Redox Potential use Active Carbon Filter (B in Fig. 14). Observe maintenance period of active carbon filter.
- Use a 3 micron (0.08mm) particle filter (C in Fig. 14) to prevent excessive soiling of the supply water.
- Recommended test instruments: Cl2 Tester (swimming pool accessories), conductivity tester, redox meter.

Optional Treated Water Connection

- To connect a dual water supply–treated soft water or warm water below
- 140°F (60°C)–disconnect T-water connection at the two water inlets (Fig. 15). Connect treated water to water inlet marked WZ2 and standard water to inlet marked WZ1. Treated water must comply with the above-mentioned water specifications.

NOTE: If using external filter to treat hard water: Contact your Henny Penny distributor for average water consumption when using CleanJet. Increases in average water consumption may exceed specifications of external filters and may affect the frequency of filter maintenance. (See page 57)

General

11) Technical Data

Working place specific noise level: <70dB

Average water consumption during operation:

Model 6: 3.17 gal/hr (0.2 l/min.)
Model 10: 6.7 gal/hr (0.42 l/min.)
Model 1020: 10.9 gal/hr (.069 l/min.)
Model 20: 13.2 gal/hr (0.83 l/min.)
Model 40: 15.8 gal/hr (1.0 l/min.)

Heat emission:

Model	Latent	Sensible
LCS/G-6	.64 W (2.30 kJ)/hr	84 W (2.93 kJ)/hr
LCS-G-10	1.05 W (8.50 kJ)/hr	1.4 W (5.00 kJ)/hr
LCS/G-1020	1.67 W (6.00 kJ)/hr	2.4 W (8.50 kJ)/hr
LCS-G-20	2.13 W (7.67 kJ)/hr	2.67 W (9.60 kJ)/hr
LCS/G-40	3.7 W (13.35 kJ)/hr	4.26 W (15.34 kJ)/hr

Ventilation

Contact your local regulatory agency for ventilation requirements. If a ventilation hood is installed, observe the following:

- The standards of the local authority.
- The hood should protrude 12-20 in. (300-500 mm) over the front of the appliance.
- The integrated grease filter should be in the protruding part of the hood.

Specifications and technical descriptions in this applications manual are subject to change without prior notice.

Gas supply

12) Gas supply (for LCG units only)

The ClimaPlus gas model is available for either natural or propane gas. Check the data plate on the left corner of the unit to determine the proper gas supply requirement.

Model	Gas Line	Connection
LCG-6	¾ in.	½ in.
LCG-10	¾ in.	¾ in.
LCG-1020	1 in.	¾ in.
LCG-20	1 in.	¾ in.
LCG-40	1¼ in.	1 in.

continued

DO NOT attempt to use any type of gas other than that specified on the data plate. Incorrect gas supply could result in fire or explosion resulting in severe injuries and/or property damage.

WARNING

To avoid possible serious personal injury, the installation must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1-1988 or latest edition. In Canada, CAN/CGA-B 149.1 Natural Gas Installation Code CAN/CGA-B 149.2 Propane Installation Code.

- All Henny Penny Combi-Steamers are equipped with two heat exchanger systems. One is responsible for steam production, the second for dry heat. Each individual heat exchanger is heated with a separate burner assembly.
- Separate gas valves for the steam burner and dry heat burner are responsible for the gas supply to the individual burners. All LCG models have manual shut-off valves that can be accessed from the left without tools. To operate the valves, unscrew the two knurled screws and remove the service cover. Open or close manual valves as desired.

Gas Leak Test

- After piping and fittings have been installed, check for gas leaks. A simple checking method is to turn on the gas and brush all connections with a soap solution. The appearance of bubbles indicates escaping gas. In this event, the piping connection must be redone until no bubbles occur.

Never use a lighted match or open flame to test for gas leaks. Escaping gas could result in fire or explosion resulting in severe injuries and/or property damage.

Gas pressure

- The gas pressure should be measured when all other gas appliances in the kitchen are on high flame. The minimum and maximum incoming line flow pressures should be as follows:

  Natural: 7-10 in. water column (18-25 mb)

  Propane: 12-14 in. water column (30-35 mb)

continued

CAUTION

During pressure testing note the following:

1. The unit and its individual shut-off valves must be disconnected from the gas supply piping system during any pressure testing of that system when test pressures exceed ½ psig (3.45kPa). Turn OFF main gas shut-off valve or main gas supply line.
2. The unit must be isolated from the gas supply piping system by closing its individual manual shut-off valves during any pressure testing of the gas supply piping system at test pressure equal to or less than ½ psig (3.45kPa).
3. If incoming pressure is over 14 in. water column (35 mb) a separate regulator must be installed ahead of the manual gas shut-off valve.

WARNING

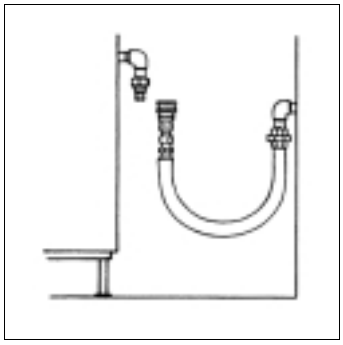
To prevent damage to the control valve regulator, the first time the gas valve knob is turned to the ON position, it is very important to turn the knob very slowly.

NOTE

After turning on the gas, the manual shut-off valve must remain open, except during pressure testing as outlined above, or when necessary during service maintenance.

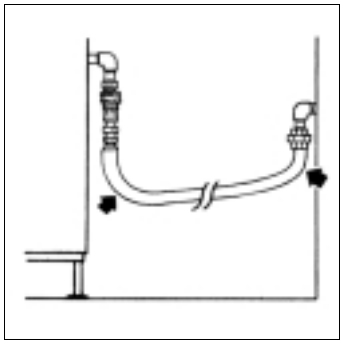
- Incoming pressure reading can be taken by installing a gas pressure gauge on the front of the unit's main gas valves test port. This should be done with all gas appliances in operation on the same gas supply line. Should the manifold pressure drop below the desired level, consult your local gas utility service.

Gas Hook-up



RIGHT

A minimum pull of appliance away from wall is acceptable in order to disconnect hook-up.



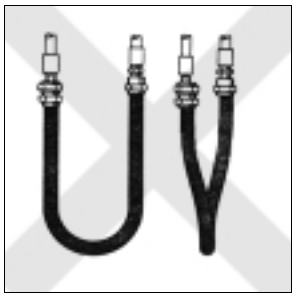
WRONG

Maximum pull prior to disconnect will result in kinked ends and reduce hose and connector life.

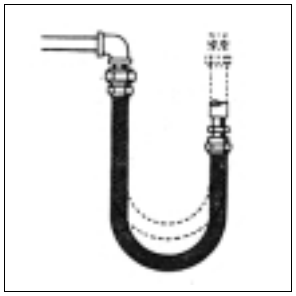
continued

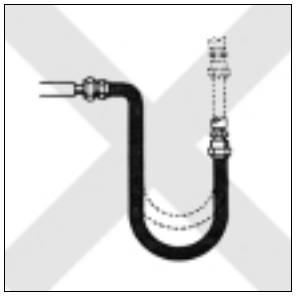
CAUTION

Utilize elbows when necessary to avoid sharp kinks or excessive bending. For ease of movement, install with a “lazy” loop. Gas appliance must be disconnected prior to maximum movement. (Minimum movement is permissible to disconnect gas line.



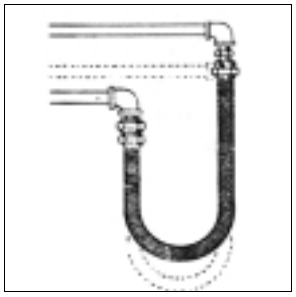
Couplings and hose should be installed in the same plane as shown at left. DO NOT OFFSET COUPLINGS. This results in twisting and undue torsion causing premature failure.

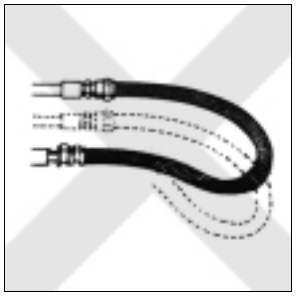




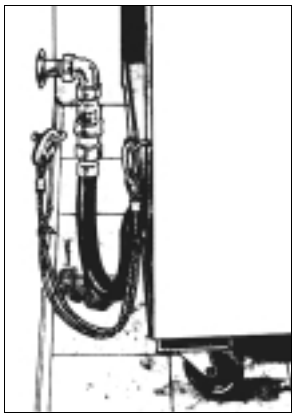
Correct way to install metal hose for vertical traverse. Note single, natural loop. Allowing a sharp bend, shown at right, strains and twists the metal hose to a point of early failure at the coupling.

Maintain the minimum or larger bending diameter between couplings for the longest life. Couplings too close together, as shown at right, create double bends causing work fatigue failure of fittings.





In all installations where self-draining is not necessary, connect metal hose in a vertical loop. DO NOT CONNECT METAL HOSE HORIZONTALLY unless self-draining is necessary. Then use support on lower plane as show at left.



Cable Restraint

Please refer to the illustration at left when installing cable restraint on all moveable gas appliances

Eye-bolt is to be secured to the building using acceptable building practices.

CAUTION Dry wall construction

Secure eye-bolt to a framing stud. DO NOT attach to dry wall only. Locate eye-bolt at the same height as the gas service approximately 6 in. (150 mm) to either side of service. Cable restraint must be at least 6 in. (150 mm) shorter than flexible gas line.