



Foodservice Gas Connector Installation Guide

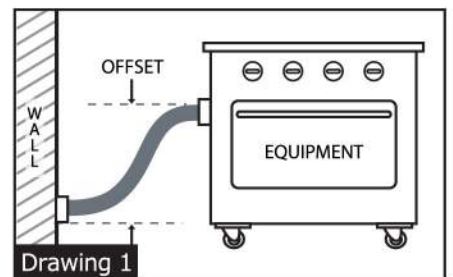
Please read the following instruction carefully. Failure to fully understand and follow the instruction, cautions and warning could cause severe injury or death

CAUTIONS AND WARNINGS

- The installation **MUST BE** compliant with the National Fuel Gas Code (ANSI Z223.1) and local gas installation codes.
- The installation and testing **MUST** be performed by a qualified professional. Make sure that the gas supply and gas valves of the appliances are shut off before the installation of gas connector.
- Gas supply outlet shall be in the same room as appliance and the gas connector must not be concealed within or turn through any wall, floor or partition. Gas connector shall not be in contact with any surfaces with temperature over 110°C (230°F), sharp edges or electric wiring.
- The final assembly must be tested for leaks after the installation. Open flame or any sources of ignition must not be used for the testing. Any remained test solution may cause corrosion. Tested gas connectors **MUST BE WATER RINSED AFTER LEAK TEST**. For the proper leak test, reference National Fuel Gas Code Z223.1, NFPA 54 or CSA B149.1, Natural Gas and Propane Gas Installation Code. If odor of gas is detected, immediately turn off the gas supply to the appliance and contact qualified professional for repair.
- **STRONG CLEANING SOLUTIONS OR CHEMICAL SUBSTANCES MUST NOT COME IN CONTACT WITH THE GAS CONNECTORS**. These may include acids, solvents, flux with zinc chloride or other chlorinated chemicals. In case of exposure to strong chemical, gas connectors shall be rinsed down with water and dried thoroughly.
- An accessible manual shut-off valve must be installed at the outlet of the gas supply line and upstream of the gas connector.
- Any contact with foreign objects, wiring or substances shall be avoided.
- Movement of gas connector installed on fixed appliances shall be avoided after the installation.
- Movement of gas connectors installed on moveable appliances (e.g. those factory equipped with casters) shall be limited to only pulling and pushing the appliance for cleaning or maintenance.
- Gas connectors are only for use of gas fuel supply piping with pressure not in excess of ½ psi (3.5 kpa). Flexible gas connectors are suitable for use with 1st, 2nd and 3rd family gases on piping systems operated at a pressure not exceeding 50 mbar.
- **DO NOT REUSE FOR ANOTHER APPLIANCE OR AT ANOTHER LOCATION.**
- In addition to the main gas supply shut-off valve, an approved accessible manual shut-off valve must be installed upstream of the gas connector (within 6 feet of the equipment it serves). Each piece of equipment must have its own shut-off valve. **DO NOT USE** the quick-disconnect coupling as the primary gas shut-off.
- The quick disconnect **MUST BE INSTALLED** so that the gas enters the coupling half and exits the nipple half. The installation shall be following the flow direction arrows that are permanently marked on the coupling.
- **NEVER APPLY** screwdrivers, probes, etc. into the quick disconnect couplings. The valve seat can be damaged or forced off center.
- The gas connector shall not be kinked, twisted or torqued during the installation.
- Make sure that all fittings are tightened properly. When installing gas connectors, two 14 inch adjustable wrenches (minimum size) are recommended as proper tools.
- Adequate means must be provided to limit the movement of castered appliances. A restraining device is **REQUIRED** for all types of moveable gas appliances.
- When installing an equipment line-up with dual feed front manifold gas inlets, **DO NOT** use a quick disconnect coupling.
- Appliances must be disconnected prior to maximum movement. **DO NOT OVEREXTEND** the gas connector assembly.

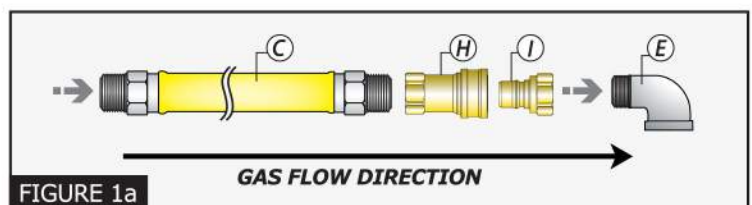
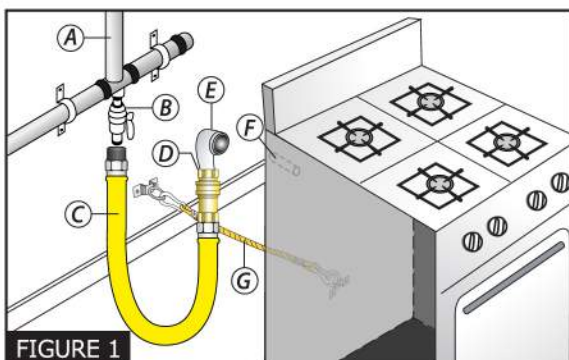
Installation Instruction

1. The manual gas shut off ball valve (B), located in the gas manifold line (A), must be in the fully closed (off) position. If there is no gas shut-off valve in the manifold line, the main gas supply line valve (not shown) must be turned off. **DO NOT CONTINUE UNLESS THE GAS SUPPLY IS TURNED OFF.**
2. Make sure that the gas connector is not kinked, twisted or torqued when installed. Please refer to Installation Rights and Wrongs. For the case of sharp bend in hose, Easyflex swivel connection is recommended.
3. It is recommended the main gas supply be located 30 ~ 42" off the ground. There should be pipe tees pointing downward direction.
4. To facilitate moving equipment as close to the wall as possible, the two ends of the Easyflex gas connector should be offset to the side from each other. (+/-3" offset recommended, see drawing 1).
5. Each piece of equipment **MUST** have its own approved manual shut-off valve. If there is not an accessible manual gas shut-off valve for each piece of equipment, make sure that the gas has been shut off at the main gas shut-off valve for each piece of equipment before continuing the installation.
6. The Easyflex Quik-Disconnect coupling **MUST BE** oriented do that the gas enters the female (valved) coupling half and exit the male nipple half. FOLLOW the flow direction arrows permanently marked on the coupling.



Easyflex Quick Disconnect Installation Instructions

This installation method, commonly used in North America, shows the quick-disconnect coupling attached at the appliance side. The nipple **MUST** always be on the appliance side, attached to the appliance stub-out or external regulator. This enables the operator to move the equipment away from the wall in an equipment line-up and safely disconnect the gas connector from the back side of the appliance.



- | | |
|-----------------------------------|--|
| A. Gas Supply Line (Gas Manifold) | F. Appliance Male Stub-Out |
| B. Gas Shut-Off Ball Valve | G. Restraining Device |
| C. Easyflex Gas Connector | H. Easyflex Quick-Disconnect Coupling (female) |
| D. Easyflex Quick Disconnect | I. Easyflex Quick-Disconnect NIPPLE |
| E. 90° Elbow | |

7. There are two options for the installation of the quick-disconnect couplings:
 OPTION 1 : Quick-disconnect at the appliance side.
 OPTION 2 : Quick-disconnect at the gas supply line on the wall.

8. **OPTION 1** : Quick-Disconnect attached at the appliance side (Refer to Figure 1).

Gas Supply Side :

- a. Apply thread sealant (pipe dope) or thread tape to the threads at one end of the gas connector.
- b. Thread this end of the gas connector into the gas shut-off valve and tighten with wrenches.

Appliance Side :

- c. Apply thread sealant (pipe dope) or thread tape to the appliance's male stub-out (F), and thread street elbow (E) onto male stub-out, and tighten with wrenches. The location of both the equipment stub-out and the tees for the gas supply line manifold can vary greatly.
- d. Apply thread sealant (pipe dope) or thread tape to male street elbow (E) threads.
- e. Separate the quick-disconnect coupling male end or nipple (I) from the female end or coupling (H). Thread the male nipple (I) onto the street elbow (E) and tighten. NOTE : The quick-disconnect MUST BE ORIENTED so that the gas enters the coupling half and exits the nipple half of the quick-disconnect. Installation personnel MUST follow the flow direction arrows permanently marked on the coupling.
- f. Apply thread sealant (pipe dope) or thread tape to the male threads of the gas connector. Thread quick-disconnect coupling onto the gas connector threads. Tighten.
- g. Connect quick-disconnect female coupling (H) to the male nipple (I). (Figure 1 a).
- h. Check tightness of all connections. Leak test in accordance with accepted testing procedures.
- i. After installation of the connector, carefully push the appliance back to its normal operating position.
- j. Ensure that the connector is not kinked, over bent, or caught under the equipment casters.

9. **OPTION 2** : Quick-Disconnect attached at the gas supply side (Refer to Figure 2)

WARNING : If you decide to select an Option 2 installation, the female part of the quick-disconnect coupling must be upstream and attached to the gas supply.

Option 2 installation may require additional female – female coupling and/or male – male coupling which are not included in the kit. Check additional necessary parts before installation

Gas Supply Side :

- a. Apply thread sealant (pipe dope) or thread tape to the threads at one end of the gas connector.
- b. Thread the gas connector end into the quick-disconnect male nipple (I). Tighten with wrenches.
- c. Separate the quick-disconnect female coupling (H) from the male nipple (I). (Figure 2a)
- d. Apply thread sealant (pipe dope) or thread tape to the valve nipple. If the valve has female thread, properly connect male x male threaded coupling (not included)
- e. Thread the quick-disconnect female coupling onto the threads of the gas shut-off valve (or male threaded coupling connected to valve). Tighten with wrench.

Appliance Side :

- f. Apply thread sealant (pipe dope) or thread tape to the appliance's sub-out (F) and thread the elbow onto the stub-out.
- g. Apply thread sealant (pipe dope) or thread tape to the male threads of the street elbow. If necessary, properly connect female x female threaded coupling onto street elbow. (not included)
- h. Apply thread sealant (pipe dope) or thread tape to the gas connector threads. Thread hose into the street elbow (or female threaded coupling connected to street elbow). Tighten with wrench.
- i. Connect quick-disconnect male nipple (I) to the female coupling (H).
- j. Check tightness of all connections. Leak test in accordance with accepted testing procedures.
- k. After installation of the connector, carefully push the appliance back to its normal operating position.
- l. Ensure that the connector is not kinked, over bent, or caught under the equipment casters.

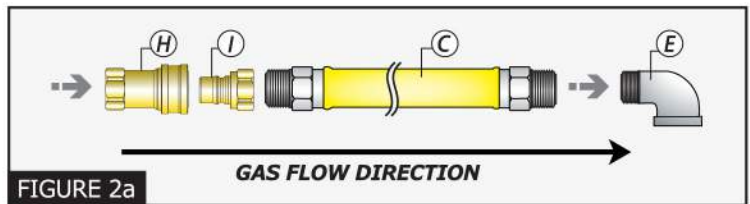
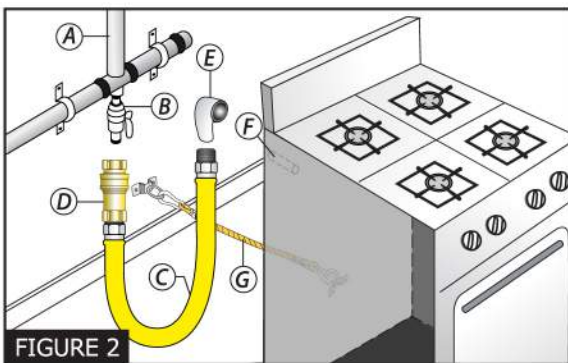


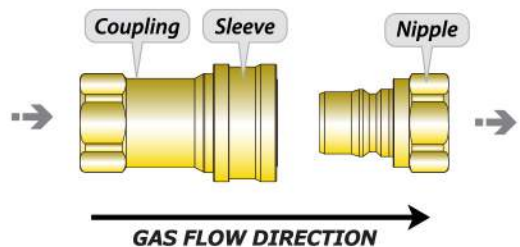
FIGURE 2
 FIGURE 2a
 A. Gas Supply Line
 B. Gas Ball Valve
 C. Easyflex Gas Connector
 D. Easyflex Quick Disconnect
 E. 90° Elbow
 F. Appliance Male Stub-Out
 G. Restraining Cable
 H. Easyflex Quick-Disconnect Coupling (female)
 I. Easyflex Quick-Disconnect Nipple (male)

Easyflex Quick Disconnect Device Operating Instructions

TO CONNECT : Push nipple straight into coupling until sleeve snaps forward against retaining ring. Open shut-off valve to turn on gas.

TO DISCONNECT : Close shut-off valve to turn-off gas. Retract sleeve and pull out nipple.

IMPORTANT : COUPLING IS NOT TO BE USED AS THE PRIMARY SHUT OFF.

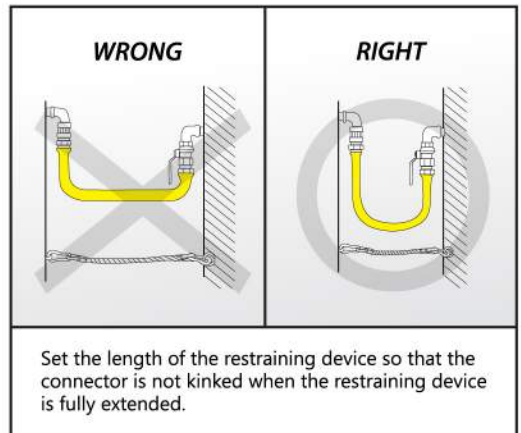


Restraining Cable Installation Instructions

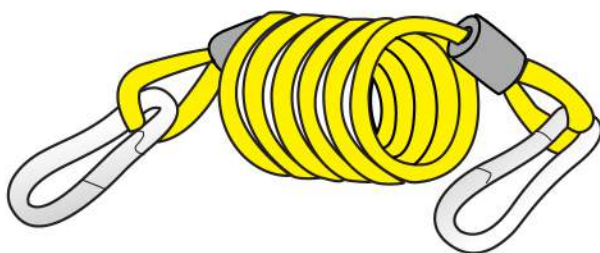
This restraining device must always be reconnected when the appliance is in service. The restraining device should be disconnected for movement, such as, servicing or cleaning, only after gas has been shut off and the connector has been disconnected! Reconnect restraining cable before reconnecting the gas connector and moving back to its original position.

RESTRAINING CABLE

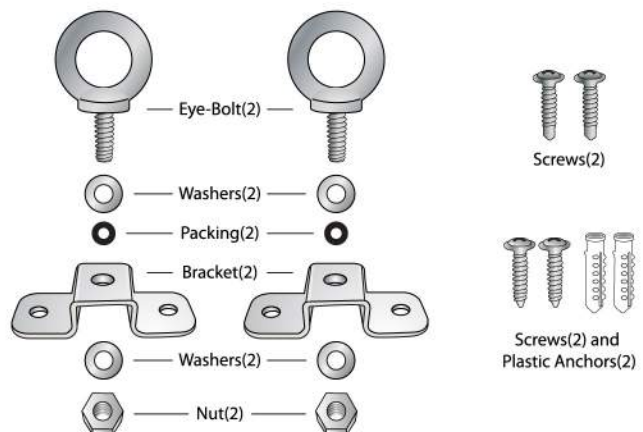
1. Restraining Device should be installed parallel (in line with the gas appliance connector.)
2. Attach the staple bracket (C) to a stud in the wall, using the four 1" #10 screws (D) and the plastic anchors (E) if needed.
3. Locate a structural area (frame) on the rear side of the equipment that is in line with the wall attachment. Drill a 1/4" diameter hole. Use caution when drilling hole, so that internal components are not damaged.
4. Thread the hex nut (G) and a washer (I) onto the eye-bolt (F). Slide one washer onto the nut. Slide the eye-bolt through the drilled hole and place a washer (I) and the nylon lock nut (H) onto the eye-bolt on the inside frame of the equipment and tighten securely.
5. Attach one of the snap hooks (B) to the staple bracket on the wall (Step 2 above) and the other to the eye-bolt (Steps 3 and 4 above).



Restraining Cable Installation



Restraining Cable and Snap Hooks(2)



Note : For adjustable restraining devices, the cable is manufactured to be shorter than the length of the gas connector.

Installation Instructions for Swivel Connection :

Note : The Easyflex Swivel is attached to the gas supply end of the connector

EASYFLEX SWIVEL FITTINGS ARE DESIGN CERTIFIED FOR USE WITH EASYFLEX GAS CONNECTORS ONLY.

1. Do not conceal swivel within or run through walls, floors or partitions.
2. For use on piping systems having fuel gas pressured not exceeding 1/2 psig.
3. Install downstream of the gas supply piping manual shut-off valve ONLY.
4. Use thread sealant (pipe dope) only when installing a Easyflex Swivel fitting.

- **DO NOT USE TEFLON TAPE ON THE SWIVEL**
- **DO NOT OVER TIGHTEN**

Gas Supply Side :

- a. Apply thread sealant (pipe dope) to the threads at one end of the gas connector. Thread this end of the gas connector into the female threads of the Easyflex Swivel fitting.
- b. Apply thread sealant (pipe dope) to the male Easyflex Swivel threads. Thread this end of the gas connector into the female threads of the gas shut-off valve and tighten with wrenches.

Appliance Side : (Refer to Figure 1 and 1 a)

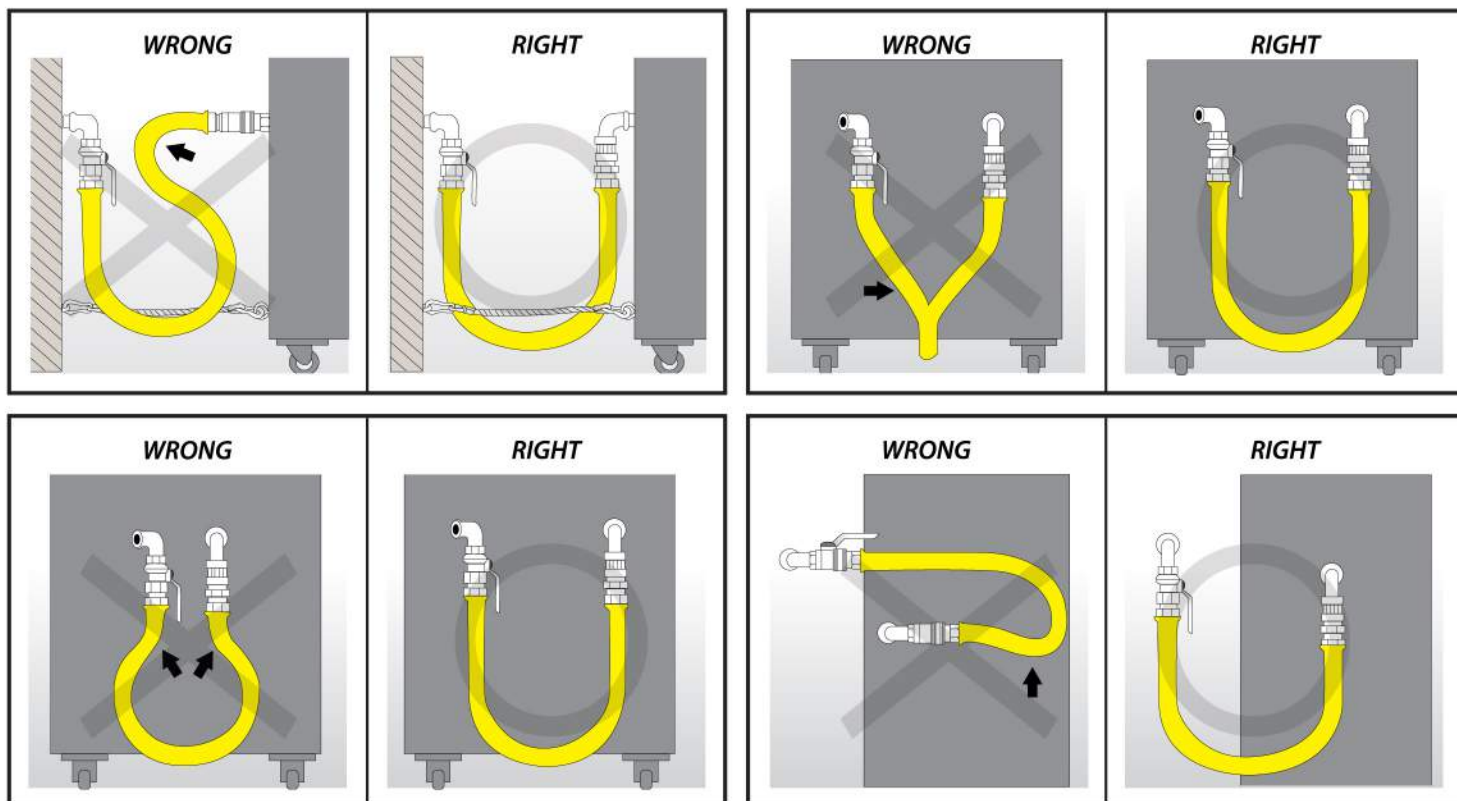
- c. Apply thread sealant (pipe dope) or thread tape to the appliance's male stub-out (F-Figure 1) and thread street elbow (E) onto male stub-out. The location of both the equipment stub-out and the tees for the gas supply line manifold can vary greatly.
- d. Apply thread sealant (pipe dope) or thread tape to male elbow (E) threads.
- e. Separate the quick-disconnect (male) nipple (I-Figure 1 a) from the coupling (J). Thread the male nipple (I) onto the elbow (E) and tighten.

NOTE : The quick-disconnect **MUST BE ORIENTED** so that the gas enters the coupling half and exits the nipple half of the quick-disconnect. Installation personnel **MUST** follow the flow direction arrows permanently marked on the coupling.

- f. Apply thread sealant (pipe dope) or thread tape to the threads at the appliance end of the gas connector. Thread this end of the gas connector into the female threads of the quick-disconnect coupling (H). Tighten.
- g. Connect quick-disconnect female coupling (H) to the male nipple (I).
- h. Check tightness of all connections. Leak test in accordance with accepted testing procedures. Rinse.
- i. After installation of the connector, carefully push the appliance back to its normal operating position. Check that the connector is not kinked, over bent, or caught under the equipment casters.



Installation Rights and Wrongs



CONNECTOR CAPACITY

Straight Length Capacity - BTU per Hr (w) 0.64 Sp Gr 1000 BTU per Cu. Ft. Gas at. 0.5 in. Water Column Pressure Drop

Nominal connector ID inches	2ft.	4ft.	6ft.
1/2"	150,000	106,000	86,600
3/4"	290,900	215,000	173,900
1"	581,800	442,700	347,800

CAPACITY WITH QUICK DISCONNECT DEVICE			
Nominal connector ID inches	2ft.	4ft.	6ft.
1/2"	87,000	68,000	55,000
3/4"	232,000	180,000	139,000
1"	414,000	334,000	279,000

CAPACITY WITH MANUAL SHUT-OFF VALVE			
Nominal connector ID inches	2ft.	4ft.	6ft.
1/2"	145,600	102,900	84,000
3/4"	282,400	208,700	168,800
1"	564,800	429,800	337,600

NOTE : When using 0.2 water column pressure drop, capacity can be determined by multiplying the figures above by 0.632. For capacities at conditions other than noted, contact your servicing gas supplier.

NOTE : Capacity was determined under test conditions specified by ANSI Z21.69

INSTRUCTION : CLEANING BEHIND EQUIPMENT

A. Disconnecting the Gas Line

- 1) Turn off the equipment.
- 2) Carefully pull the equipment away from the wall, stopping when the restraining cable is taut.
- 3) Shut-off the gas supply by turning the lever on the gas ball valve (located off the main manifold line) to the "off" position. Unplug any electrical cords.
- 4) Disconnect the gas line by pulling back the sleeve of the quick-disconnect coupling. Be careful not to drop the coupling on the floor, which may damage the unit.
- 5) Detach the snap-hook of the restraining cable.
- 6) Carefully pull the equipment away from the wall.
- 7) Clean behind the equipment, making sure no foreign substance, grease, cleaning solution or dirt enter the quick-disconnect coupling or gas line.

B. Reconnecting the Gas Line

- 1) Reattach the quick-disconnect coupling by inserting the plug (nipple) end into the coupling.
- 2) Reattach the restraining cable.
- 3) Reattach any electrical cords.
- 4) Turn the lever on the gas ball valve to the "on" position.
- 5) Carefully push the equipment back towards the wall, be sure that the gas connector is not twisted or kinked in a severe angle. Check that the gas connector is not damaged or crushed by the equipment rolling over it.
- 6) If required, relight the pilot light. Turn the equipment on.

Warranty

Warranties and Remedies

- a. **Warranty.** Seller warrants to Buyer that it holds and will pass marketable title to the commercial gas connectors sold hereunder. Seller further warrants to Buyer that Seller's commercial gas connector will be free from defects in material and workmanship causing gas leakage during the life of the equipment to which the commercial gas connector is originally connected or installed. (Limited lifetime warranty). Seller warrants to Buyer that the items and components manufactured by Seller other than commercial gas connectors will be free from defects in material and workmanship for a period of five (5) years from tender of delivery to Buyer. For items not manufactured by Seller, the only warranty extended is that of the manufacturer or suppliers, if any.
- b. **Exclusions and Conditions.** Seller's obligations with respect to the express warranties and remedies contained herein are conditioned on the following: (i) Seller's liability and Buyer's exclusive remedy is expressly limited to Seller's replacement of the defective gas connector or other goods at Seller's cost (excluding labor and freight); it being understood such replacement will be made only upon return of the defective item in accordance with Seller's shipping; (ii) Buyer shall not assign its rights under these express warranties and any attempted assignment shall render such warranties, but not any disclaimers or limitations, void and the goods shall be sold AS IS; and (iii) all commercial

gas connectors and other goods shall be carefully inspected for damage by Buyer upon receipt, be installed by individuals trained and certified as professionals with respect to such installation, and be installed, used, repaired and maintained by Buyer in accordance with local codes or regulations, standards set by American National Standard Institute and/ or American Gas Association Standards. The commercial gas connectors and other goods shall be warranted in conjunction with the original installation only and the express warranties and remedies contained herein shall not apply to, and shall be void and of no further force or effect upon, damage and/ or failure of the commercial gas connectors and other goods caused by or resulting from shipping; improper or unauthorized handling, installation, alteration or repair; misuse, abuse or other occurrences or conditions other than normal use thereof; application or conformity to local codes or regulations not previously made known to Seller; or accident or other casualty.

Disclaimer of Implied Warranties

Seller gives no warranties except those expressly contained herein. Seller disclaims all other warranties implied by law, usage of the trade, course of dealing or course of performance including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Conditions

Limitations of Liability.

The following limitations of Seller's liability are acknowledged by the parties to be fair and reasonable and shall apply to any act or omission hereunder, and to any breach of this contract of which these terms and conditions form a part.

Disclaimer of Damages

In no event shall seller be liable for special, indirect, consequential or incidental damages, whether arising under contract, warranty, tort, negligence, strict liability or any other theory of liability. Such damages include but are not limited to loss of profits, loss of use of the goods, damage to property, and claims of third parties. Some states do not allow the exclusion or limitation of incidental or consequential damages, or any limitations on how long an implied warranty lasts, so the above exclusion or limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Notice and Time of Claim

- (i) Buyer agrees to check and inspect all products against shipping papers and for damage or shortage upon receipt of goods at destination;
- (ii) Every claim for loss, damage in transit, or other cause visible upon inspection shall be made with carrier. Claims for shortage must be made within five (5) days of receipt;
- (iii) The parties expressly waive the statute of limitations and agree that any legal proceeding for any breach of this contract shall be waived unless held within two (2) years after the accrual of the cause of action therefor.

Return Policy

No returns are to be made to Easyflex without first obtaining a return authorization number. Absolutely no return will be accepted or credited without this prior approval. Return will be subject to a 25% restocking charge plus any transportation charge incurred.

Canadian Installation Instructions : WARNING

The quick disconnect must be installed so that the gas enters the coupling half and exits the nipple half. You must follow the flow direction arrows that are permanently marked on the coupler

1. The gas outlet must be in the same room as the gas-fired equipment and the connector must not be concealed within or run through any wall, floor or partition.
2. All part of the union supplied with the connector must be used, and no attempt shall be made to assemble union nuts directly to pipe threads.
3. The connector must not be kinked, twisted or torqued.
4. Connectors are for use only on piping systems having fuel gas pressures not in excess of 1/2 psi (3.5 kPa).
5. For moveable appliance installation (e.g., appliances factory-equipped with casters), flexing and bending should be limited to the needs of pulling and pushing the appliance in and out for cleaning, maintenance or installation. For fixed appliance installation, connector movement after installation should be avoided.
6. Contact with foreign objects or substances must be avoided.
7. An accessible manual shutoff valve must be installed at the outlet of the gas supply piping system upstream of the connector.
8. The final assembly must be tested for leaks.

Caution: Matches, candles, open flame or other sources of ignition shall not be used for this purpose. Leak test solutions may cause corrosion-water rinse after test. To check gas supply piping system for leakage, see the National Fuel Gas Code, ANSI Z223.1 or CAN/CGA-B149.1, Natural Gas Installation Code, and CAN/CGA-B149.2, Propane Installation Code.

9. The connector complies with the Standard for Connectors for Moveable Gas Appliances, ANSI Z21.69-CGA 6.16.
10. A restraining cable MUST BE connected at all time when appliance is in use.

Straight Length Capacity - BTU per Hr (w) 0.64 Sp Gr 1000 BTU per Cu. Ft. Gas at 0.5 in. Water Column Pressure Drop

CAPACITY WITH MANUAL SHUT-OFF VALVE

Nominal Connector I.D. Inches	2ft.	4ft.	6ft.
1/2"	150,000	106,000	86,600
3/4"	290,900	215,000	173,900
1"	581,800	442,700	347,800

CAPACITY WITH QUICK DISCONNECT DEVICE

Nominal Connector I.D. Inches	2ft.	4ft.	6ft.
1/2"	87,000	68,000	55,000
3/4"	232,000	180,000	139,000
1"	414,000	334,000	279,000

Note : When using 0.2 water column pressure drop, capacity can be determined by multiplying the figured above by 0.632. For capacities at conditions other than noted, contact your servicing gas supplier.

Note : Capacity was determined under test conditions specified by ANSI Z21.69