

Safety+PLUS®2

COATED STAINLESS STEEL GAS CONNECTORS INSTALLATION INSTRUCTIONS



For Residential
and Commercial
Gas Appliances

⚠ CAUTION: DO NOT INSTALL THIS PRODUCT UNTIL YOU HAVE READ AND UNDERSTAND ALL INSTRUCTIONS! Failure to follow these instructions may result in personal injury, property damage or product failure.

The Safety+PLUS®2 coated stainless steel gas connector combines three state-of-the-art technologies to deliver a superior gas connector for your home and family. Safety+PLUS®2 gas connectors feature an advanced corrosion resistant coating called ProCoat®. A proprietary polymer coating, ProCoat is specially engineered to resist the corrosion from most harsh chemicals found in household cleaning, plumbing repair and masonry products. Approved for indoor and outdoor use, ProCoat is formulated to resist the harsh effect of UV rays and salt.

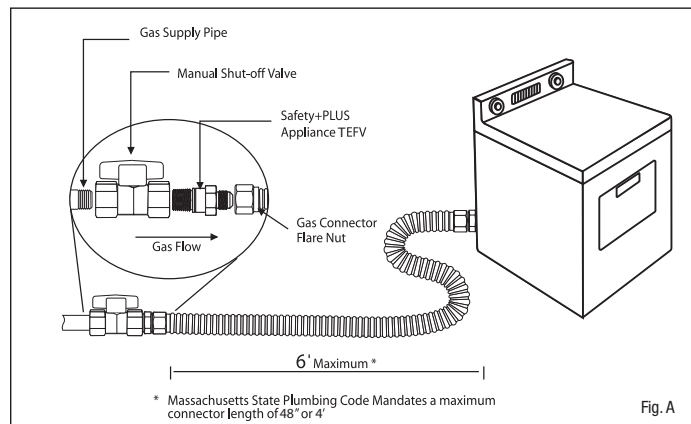
Safety+PLUS®2 thermal excess flow valve (TEFV), an automatic safety valve for gas, utilize a patented excess flow & heat-activated technology. In the event of a catastrophic gas line rupture or disconnection at the appliance, the Safety+PLUS®2 thermal excess flow valve immediately restricts gas flow to a non-hazardous level (a bypass flow) to avert the potential for a dangerous release of gas into the home. Only after the gas line has been properly repaired, the bypass flow automatically resets the valve, allowing gas flow to resume to the appliance. The heat-activated component of the valve utilizes an intumescent ring that will prevent the flow of gas through the valve when the valve is exposed to temperatures of 400 degrees Fahrenheit or more.

⚠ CAUTION: Use only on low pressure natural and LP gas piping systems. DO NOT USE on pipelines or piping systems that transfer or move liquids, including high-pressure liquid propane.

- Use only with gas line pressures at a minimum of 4" water column (W.C.) and not greater than 14" W.C. (1/2 psig) at the stub out.
- Use only in connection with residential and commercial gas appliances, where installation is immediately downstream of the gas supply pipe and manual gas shut-off valve.

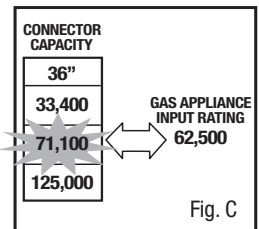
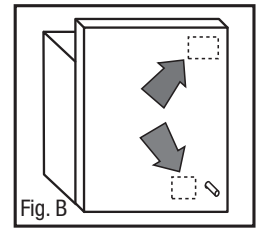
Tools Needed for Installation:

- (2) 10" adjustable wrenches
- Pipe dope or gas pipe thread tape
- Leak detection solution

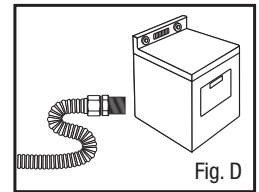


SIZING THE CONNECTOR TO THE APPLIANCE

1. Measure the distance between the gas supply stub out and the appliance. Add 2 – 3 inches to the measured distance for appropriate connector length for the installation (See Fig. A).
2. Identify the maximum (gas) input rating of the appliance (referred to as "input rating"). Manufacturer's label, located near the gas inlet of the appliance will contain this information. (See Fig. B) Contact the appliance manufacturer if you are unsure of the correct rating for the appliance.
3. Using Chart 1, select the gas connector with the maximum flow capacity that is HIGHER than the input rating of the appliance. However, select the gas connector with the maximum flow capacity that is CLOSEST TO the input rating of the appliance (Fig. C).



⚠ WARNING: The maximum gas input rating of the appliance must be within the flow capacity range of the connector. If the Safety+PLUS®2 gas connector is not properly sized to the application, the Safety+PLUS®2 valve may not activate in the event of a gas line rupture or disconnection. If the Safety+PLUS®2 gas connector is under sized for the appliance, the Safety+PLUS®2 valve may activate prematurely restricting gas flow during normal operation of the appliance.



4. Finally, select the connector with the end fittings that match the outlet of your manual gas shut-off valve and the gas inlet to the appliance (Fig. D).

Chart 1		Gas Connector Maximum Flow Capacity								
Part #	ID	Color Code	12"	18"	24"	30"	36"	48"	60"	72"
CSSL	1/4	Purple	42,000	37,400	36,800	36,400	33,400	28,300	24,900	23,100
CSSD	3/8	Green	102,000	93,100	85,000	77,100	71,100	60,500	53,200	49,100
CSSC	1/2	Gold	122,000	118,000	115,000	111,000	107,000	106,000	93,200	86,000

Listings & Certifications:

Components CSA listed to ANSI Z21.24 / CSA 6.10 standard "Connectors for Gas Appliances" (Ie #204593)

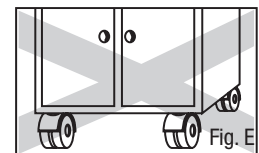
Components CSA listed to ANSI Z21.75 / CSA 6.27 standard "Connectors for Outdoor Gas Appliances & Manufactured Homes" (Ie #204593)

Components CSA listed to ANSI Z21.93 / CSA 6.30 standard "Excess Flow Valves for Natural Gas with Pressures up to 5 PSI"

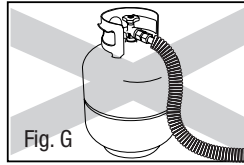
NOTE: All Safety+PLUS®2 valves are rated at a maximum inlet pressure of 1/2 psig. (14" W.C.). Flow rates given are for 0.6 specific gravity natural gas with an average heating value of 1000 Btu per cubic foot; therefore, 1,000 Btu/h is equal to 1 SCFH (standard cubic foot per hour). Chart to be used in accordance with the local plumbing codes and with reference to IAPMO/ANSI UPC 1-2003; NFPA 54/ANSI Z223.1 - National Fuel Gas Code.

SAFETY PRECAUTIONS:

1. Read and follow all installation instructions carefully. When in doubt, call a licensed plumber or your local gas company.
2. DO NOT reuse the gas connector or fittings. The connector, fittings and valve are designed for use on original installation only. Removal of connector and additional handling may have damaged connector making it unsafe for reuse.
3. DO NOT use this gas connector on appliances equipped with rollers or casters (Fig. E). This connector is designed for limited movement after installation. Repeated bending, flexing or extreme vibration can cause metal fatigue. DO NOT repeatedly move appliance for cleaning once installed.
4. AVOID connector contact with foreign objects such as wall studs, electrical wiring, copper or iron pipe, paneling sheet metal, etc. Gas systems should NOT be used as electrical grounds. Dissimilar metals should be isolated from each other.
5. Keep cleaning solvents containing ammonia or chlorine away from uncoated gas connectors (Fig. F). DO NOT store these solutions in closets containing a water heater or furnace. Chlorine can corrode uncoated stainless steel.



- DO NOT use connectors to make a direct connection to L.P. gas containers (Fig. G). Connection MUST be made to the regulator device only.
- DO NOT use connectors on appliances in moving vehicles such as RV's, trailers, etc. This does not include manufactured housing (permanent residence mobile homes).

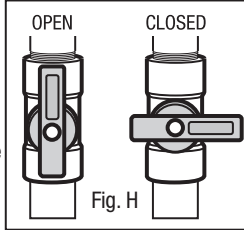


INSTALLATION:

▲ WARNING: DO NOT CONNECT Safety+PLUS®2 VALVE DIRECTLY TO THE APPLIANCE. The Safety+PLUS®2 valve must be installed between the manual shut-off valve and the flexible gas connector. If installed to the gas inlet of the appliance, the Safety+PLUS®2 valve will not operate.

▲ WARNING: DO NOT USE matches, candles, open flames or other sources of ignition during product installation. A spark or flame may ignite gas vapors causing property damage and/or personal injury including death. Extinguish all pilot lights within 50 ft. before proceeding with appliance installation.

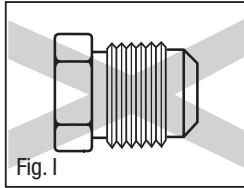
- Turn off gas supply shut-off valve at the appliance before disconnecting old appliance. The manual gas shut-off valve, located near the appliance, is closed and gas is shut-off when valve handle is perpendicular to the valve body (Fig. H). In the absence of manual gas shut-off valve near appliance location, gas MUST be shut off at main valve, before the meter.



NOTE: The Fuel Gas Codes require installation of a manual gas shut-off valve in the same room, within easy reach of the appliance.

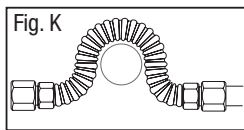
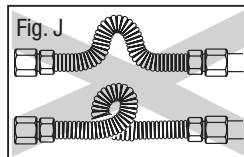
- Clean ALL pipe threads with a wire brush and rag to ensure connections are free of any debris such as metal shavings, rust, dirt, oil or water.
- Apply pipe thread sealant to the male pipe threads.

▲ CAUTION: DO NOT apply pipe thread sealant or tape to flare ends of fittings or valves (Fig. I). Sealant and tape will prevent this connection from sealing properly.



- If not already installed, thread a manual gas shut-off valve onto gas stub out. Using one adjustable wrench to stabilize the gas stub out, wrench tighten the shut-off valve with second wrench.
- Inspect the Safety+PLUS®2 valve before installing to be certain it has not been damaged. Thread brass Safety+PLUS®2 valve to manual gas shut-off valve. Using one adjustable wrench to stabilize the manual gas shut-off valve, wrench tighten Safety+PLUS®2 valve with second wrench. Tighten all connections in the same manner.
- Thread steel gas fitting to gas inlet on appliance. Wrench tighten.
- Thread flare nuts of gas connector onto Safety+PLUS®2 valve and steel fitting. Wrench tighten both connections.

- DO NOT** stretch connector to make it fit. Connector should be at least 2 – 3 inches longer than the distance between the appliance and gas supply. Stretching the connector will stress the stainless steel which may cause cracks or breaks during appliance use or if accidentally hit.
- DO NOT** kink, twist or bend connector sharply – doing so will cause the connector to fail. Be careful when installing connector to avoid pinching or kinking the connector (Fig. J).
- DO NOT** allow connector to become trapped against sharp edges or corners.
- DO NOT** use connector if bent tighter than 1-1/2 in. (the diameter of a golf ball) (Fig. K).

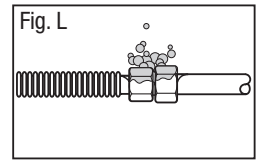


- SLOWLY open the manual gas shut-off valve to allow gas to enter the system. The valve is open and gas is flowing when the valve handle is parallel to the valve body (Fig. H).

NOTE: If gas enters system too quickly, the Safety+PLUS®2 valve may activate pre-maturely. If this occurs, the Safety+PLUS®2 valve will re-open in less than 60 seconds (you will hear a soft "click").

▲ WARNING: DO NOT TURN ON APPLIANCE UNTIL ALL CONNECTIONS ARE LEAK TESTED!

- Leak test all connections with a clear soap and water solution or leak detection solution; bubbles will indicate a leak in the connection. If a leak is detected, turn off gas supply before further tightening connections (Fig. L).



▲ WARNING: DO NOT get soap, water or leak detection solution inside the Safety+PLUS®2 valve or connector, direct contact with any of these could cause the Safety+PLUS®2 thermal excess flow valve to not function properly in the event of a fire.

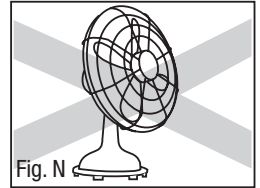
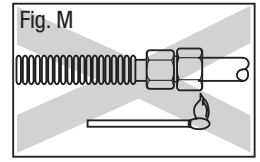
▲ DANGER: DO NOT USE matches, candles, open flames or other sources of ignition to leak test connector or fittings. A spark or flame may ignite gas leaks potentially causing property damage and/or personal injury including death (Fig. M).

▲ CAUTION: DO NOT rinse connector with water and towel dry after leak testing connections. Soap and test solutions may cause an uncoated connector to corrode.

▲ CAUTION: DO NOT uninstall the connector when rinsing with water since contact with water inside the connector will have adverse effect in the heat-activated capabilities of the ring. Wait at least 10 minutes to light pilot(s) once you have leak tested all connections and have found no leaks to be certain that all vapors have dissipated.

▲ DANGER: DO NOT USE motorized equipment or other sources of combustion to dissipate gas vapors. Motorized equipment can ignite gas vapors causing fire or explosion which may result in property damage and/or personal injury including death (Fig. N).

▲ DANGER: Fuel gases are colorless, tasteless and, in their pure state, odorless. They are odorized (rotten egg smell) so that their presence can be detected. LP gases are heavier than air and dissipate slower than natural or manufactured gases. LP gas, if released in quantity, will accumulate in low-lying areas such as a basement or crawl space.



THIS SAFETY+PLUS®2 THERMAL EXCESS FLOW VALVE (included with the connector) IS NOT DESIGNED TO ACTIVATE IF ANY OF THE FOLLOWING CONDITIONS ARE PRESENT:

- There are small leaks such as pin hole leaks or lesser leaks caused by cracks or loose connections that do not increase the gas flow above normal operating capacity of the appliance.
- The gas appliance malfunctions or the user fails to shut off gas burners.
- There is foreign matter, such as pipe thread sealant, lodged in the valve.
- The manual gas shut-off valve is partially opened, or there is a pipe break or damage that has occurred upstream of the Safety+PLUS®2 valve that prevents sufficient gas flow through the valve.
- There is insufficient gas flow from an improperly sized gas piping system upstream of the Safety+PLUS®2 valve.
- The gas flow through the Safety+PLUS®2 valve is in the wrong direction. The Safety+PLUS®2 valve responds to gas flow in one direction only (see product label). The Safety+PLUS®2 valve must be installed so that the arrows point in the direction of gas flow.
- The Safety+PLUS®2 valve is damaged, exposed to fire or improperly installed.

▲ WARNING: Replace the Safety+PLUS®2 valve if it has been damaged or exposed to fire.

Thermal Excess Flow Valve



Gas Connector



BrassCraft®

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