SAFETY PRECAUTIONS
Whenever a valve is being installed or removed from the pipeline, ensure the line is not pressurized and any hazardous medium is drained away. Slowly cycle the valve several times to relieve the cavity area and leave in the open position. Check that the seat and body pressure ratings are suitable for the service prior to installation. These ratings must not be exceeded.

STORAGE INSTRUCTIONS
The valves ball, seats and end connections should be adequately protected against damage. The protective end covers should not be removed until ready for installation.

GENERAL
All valves are bi-directional, controlling flow in either direction. They can be installed in any position, horizontally or vertically. Thread tape or sealant is recommended to ensure effective sealing. Check that the tape/sealant is suitable for the service.

MAINTENANCE
The only routine maintenance required is periodical checks and adjustment to the stem assembly. Adjustment to the gland nut is recommended after the first 5000 and 10000 cycles; and every 10000 cycles thereafter to compensate for the bedding of thrust and gland seal and ensure leak free operation. When tightening the gland nut, do not exceed recommended torques, see table overleaf. After reaching recommended gland nut torque, back off to nearest flat on nut. Bend the lock washer over the nut in this position. When fitting actuators to valves, refer to mounting instructions supplied with mounting kit.

INSTALLATION
Prior to leaving the factory each valve is pressure tested, and to prevent damage to the ball surface and seats protective covers will have been fitted. Leave these in place until such time as the valve is ready for installation. On removal make sure the valve is in the open position and free of foreign matter.

When installing valve, follow relevant standards and statutory regulations. Examples:
Local gas fitting regulations, municipal building codes or electrical wiring regulations.
- Screwed valves: valves should not be dismantled prior to fitting, and installed as a unit following standard piping practice (e.g. using thread tape or pipe sealant).
- When screwing the valve to the pipe DO NOT OVERTIGHTEN.
- Weld valves: follow instructions for weld valves [see overleaf].

PIPE COMPATIBILITY
Emerson ball valves are suitable for installation into most piping systems. The standard end connections are:
- BSPT
- NPT
- Socket weld pipe Sch. 40
- Socket weld O/D tube Sch. 10
- Butt weld pipe Sch. 40
Other end connections are available upon request.
WELDING INSTRUCTIONS

CAUTION: failure to follow these instructions could result in serious damage to the valve seats and seals.

1. To prevent weld splatter damaging the ball surface and to facilitate the later removal of the center section, ensure the valve is in the open position.
2. Locate the valve in the pipeline and tackweld the valve in position.
3. Loosen and remove the body bolts (010) and nuts (011), allowing the body (001) to be removed from between end connectors (009). For R384 and R394 valves only - extra care must be exercised at this stage as the body will not slide out from between the end connectors unless the pipe ends are separated sufficiently to give clearance for the raised fire lip and the spigot on the end connectors. Damage to either the fire lip or the spigot will effect the integrity of the valves body seal (012) and the secondary metal to metal seal of the ball and fire lip in a fire condition.

When removing the body (001), ensure the body seal (012) and seats (101) remain in the original locations.

4. Complete welding process, taking care to protect the sealing faces of the end connectors from weld splatter. Allow cooling of the ends before reassembly.
5. Reassembly:
   a) Check the body seal (012), seats (101) and ball (100), making sure they are clean, undamaged and in original locations and that the ball is in the open position.
   b) Check sealing faces of end connectors (009) to ensure the surface is clean and not damaged by weld splatter.
   c) Relocate the body (001) between end connectors (009), taking care that the pipe ends are sufficiently apart to provide clearance to slide the center section into position between the ends. For R384 and R394 valves only - care should be taken not to damage the fire lip and spigot on the ends. Make sure the end connector spigots fit in the body seal grooves.
   d) Replace body bolts (010) and nuts (011) and retighten to recommended torques.
6. Inspect for leakage at plant start-up and adjust if necessary.

CAUTION: if seats or seals are in any way damaged, do not reassemble valve without replacing damaged components.

OPERATION

All Emerson ball valves are quarter turn. Handle operated valves provide visual indication of the valve position. When the handle is across the line of the valve, the valve is closed, and when the handle is in line with the valve, the valve is open. Stops are integral with the valve and only Emerson handles must be used. Actuated valves are available and Emerson has various options of pneumatic and electric actuators. For further details on fitting actuator, refer to the mounting instruction sheet.

TORQUE VALUES (Nm)

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<th>Valve size</th>
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<th>R392/R394</th>
<th>R382/ R392</th>
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