



# VNE

Neumo Ehrenberg Group

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## Ball Valves

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# Installation & Maintenance Manual

## EG90CC and E90WW 2-Way Sanitary Ball valves

### Use:

- Please refer to the pressure/temperature rating chart. The valves are rated as WOG. (Water, Oil, and Gas)

### Manual Operation:

- The opening and closing of the valve is done by turning the handle a quarter turn (90 degrees).
- Valve is in open position when the handle is in line with the valve or pipeline.
- Valve is in closed position when the handle is perpendicular to the valve or pipeline.

### Disassembly & Cleaning procedure:

#### **Warning: When the ball is in the closed position product can be trapped within the ball.**

- If the valve has been used to control hazardous media it must be decontaminated before disassembly. It is recommended that the following steps are taken for safe removal and reassembly.
- Relieve the line pressure.
- Place valve in the half open position and flush the line to remove any hazardous material from the valve.
- Everyone involved in the removal and disassembly of the valve should wear the proper protective clothing. (Face shield, gloves, etc.)

Maintenance of parts is easy, even if the valve is installed in line. By removing all the body bolts except one and loosening that remaining one, the valve body can be swung out. Seats, gaskets, and ball can be replaced or cleaned without disturbing the pipe alignment.

### General Information for Installation

- The valves can be installed in any position on the pipeline. Horizontal or Vertical
- Before installation of the valves the tube must be flushed clean of dirt, burrs, and welding residues or the seats and ball surface will be damaged.

### Installation of Clamp end Valves

- Use the proper clamp and gasket for pressure range application.
- Place gasket into o-ring groove on the clamp valve.
- Slide valve between the clamp fittings making sure the gasket stays in place.
- Install clamp over both ends and recheck alignment.
- Tighten both clamps on each end of the valve.
- Check for proper operation of valve.

### Installation of Weld-End Valves

- Tack-weld the valve on the tube in four points on both ends.
- With the valve in the open position (Handle parallel to the tubing) remove all the body bolts except one. Loosen the nut on the remaining bolts and swing the valve body out.
- Finish welding both ends on the tube.
- When cooled down, clean both end caps and body surface.
- Swing the valve body back in position and replace bolts. Tighten all nuts slightly. This operation is very important to keep body and end caps perfectly parallel, thus preventing distortion of the end caps.
- Tighten body bolts evenly. Make sure that the maximum tightening torque is observed.
- Check for proper operation of the valve.

### Bolt Tightening Specifications

- The body bolts on the valve need to be tightened evenly.
- Tighten one-side snugly, then the one diagonally across.
- Repeat for the other bolts, bringing them all down tightly in sequence to the torque below.

Valve Size	Body Bolt Torque (ft-lbs)
1/2"	13
3/4"	13
1"	13
1 1/2"	17
2"	17
2 1/2"	18
3"	19
4"	22

### Torque requirements for gland nut

Size	Torque on gland nut (lb/in)
1/2"	35
3/4"	35
1"	71
1 1/2"	266
2"	266
2 1/2"	620
3"	620
4"	974

# **Installation & Maintenance Manual**

## **EG93CCC and E93WWW 3-Way Sanitary Ball valves**

### **Use:**

- Please refer to the pressure/temperature rating chart. The valves are rated as WOG. (Water, Oil, and Gas)

### **Manual Operation:**

- The opening and closing of the valve is done by turning the handle a quarter turn (90 degrees).
- Flow path is clearly marked on the stem top.

### **Disassembly & Cleaning procedure:**

#### **Warning: When the ball is in the closed position product can be trapped within the ball.**

- If the valve has been used to control hazardous media it must be decontaminated before disassembly. It is recommended that the following steps are taken for safe removal and reassembly.
- Relieve the line pressure.
- Cycle the valve and flush the line to remove any hazardous material from the valve.
- Allow valve to cool if the valve is used in high temperature applications.
- After removal and before any disassembly, cycle the valve again several times to relieve extra trapped fluids or gases.
- Everyone involved in the removal and disassembly of the valve should wear the proper protective clothing. (Face shield, gloves, etc.)

Maintenance of parts is easy, even if the valve is installed in line. By removing all the body bolts on all the end caps the valve body can be removed from the line. Seats, gaskets, and ball can be replaced or cleaned without disturbing the pipe alignment. Note the position of the seats so that they can be replaced in the same position as they were removed.

### **General Information for Installation**

- 3-Way valves must be installed according to the proper flow path. You must always double check and verify the flow path / ball orientation is correct before installation.
- Before installation of the valves the tube must be flushed clean of dirt, burrs, and welding residues or the seats and ball surface will be damaged.

### **Installation of Clamp end Valves**

- Use the proper clamp and gasket for pressure range application.
- Place gasket into o-ring groove on the clamp ends of the valve.
- Slide valve between the clamp fittings making sure the gasket stays in place.
- Install clamp over all ends and recheck alignment.
- Tighten all clamps on each end of the valve.
- Check for proper operation of valve.

## Installation of Weld-End Valves

- Tack-weld the valve on the tube in four points on all ends.
- Remove body bolts and lift out the valve body. Rotate the ball and remove the gasket, ball, and body seats. Note the position of the seats so that they can be replaced in the same position as they were removed.
- Complete the full welding of all ends.
- When cooled down, clean all end caps and body surface. Then reassemble with gasket, ball, and body seats.
- Tighten body bolts evenly in a star pattern. Make sure that the maximum tightening torque is observed.
- Check for proper operation of the valve.

## Bolt Tightening Specifications

- The body bolts on the valve need to be tightened evenly.
- Tighten all bolts evenly in a star pattern on the first end connection.
- Repeat for the other end connections.

Valve Size	Body Bolt Torque (ft-lbs)
1/2"	9
3/4"	9
1"	13
1 1/2"	16
2"	18
2 1/2"	18
3"	19

## Torque requirements for stem packing nut

Size	Torque on stem packing nut (lb/in)
1/2"	142
3/4"	142
1"	230
1 1/2"	354
2"	354
2 1/2"	451
3"	549
4"	549