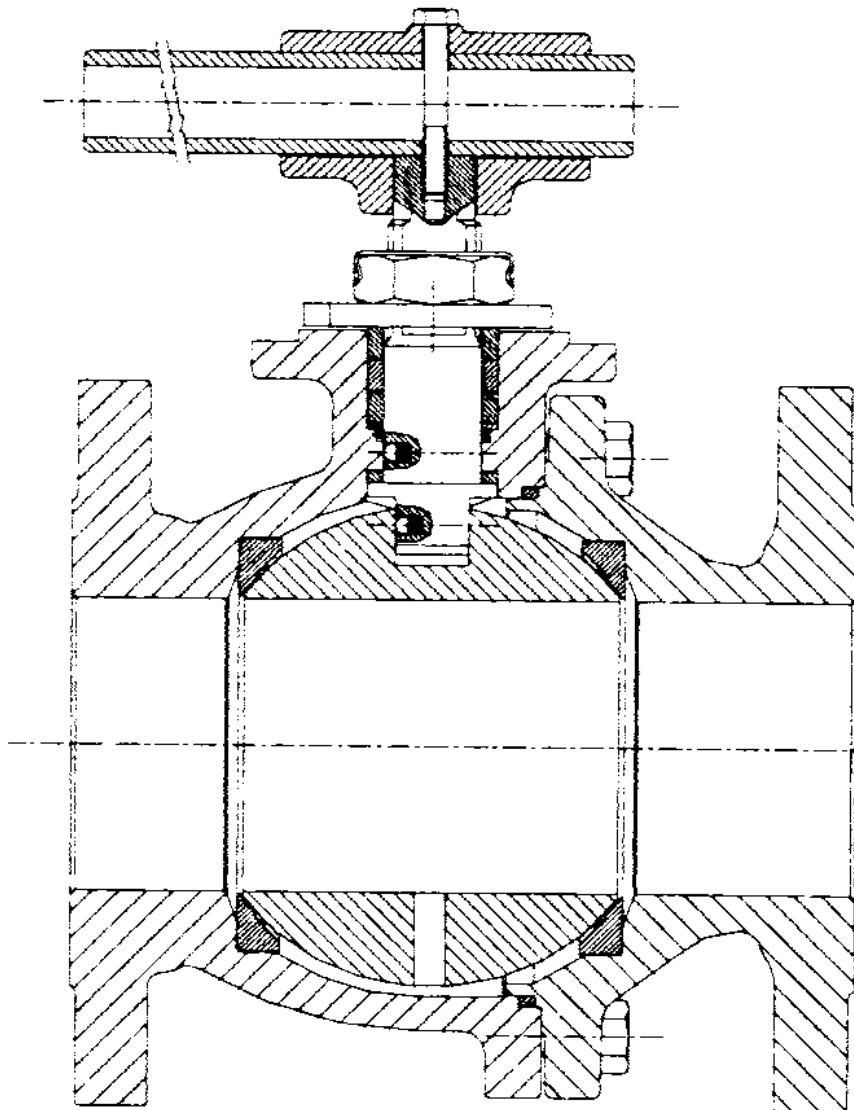


Installation, Operating & Maintenance instructions for AIL Single Piece and Two Piece Ball Valves (XR/XF Series)



1. Typical Ball valve with parts

Standard BALL valves are QUATER- turn valves with stem rotating. Fluid flow is in a straight line in a ball valve. This construction offers minimum pressure drop in service.



2. Valve Name Plate marking

- a. Every valve is provided with a stainless steel identification plate fixed to the body. The details on the name plate are as follows;

 AUDCO INDIA LIMITED					
	SIZE	DN	BODY		
	CAT.		SEAT	PTFE	
	CLASS		BALL		
285 MOP @ 100°F MIN.				 0575	
70 MOP @ 410°F MAX.					
DATE		S.No.			

3. Storage

- a. All Ball valves are shipped in the open position with the end flange protector in place. It is recommended that they are left in this position during storage.
- b. Valves should be stored in a clean dry environment and suitable covered to prevent ingress of moisture and dust.
- c. Carbon steel ball Valves are supplied in painted condition and stainless steel ball valves are supplied in unpainted condition.
- d. Paint, grease or Tar should not be applied in the valve internals, as this would impair valve performance.

3.1. Planning & Responsibilities

When installing or maintaining valves

- a. Conduct a risk assessment and eliminate or reduce hazards to an acceptable level
- b. Follow safe systems of works
- c. Observe all site health and Safety rules
- d. Due to the variety of duties in which this product can be employed, it is the end users responsibility to ensure the compatibility of the media with the material of construction of the product for each specific application
- e. Before equipment is installed in areas which may be subject to extreme seismic activity, consult AIL sales with data.

3.2 Do's & Don'ts

- a. Wear all necessary protective equipment for conducting the work
- b. Never remove or maintain a valve or joint unless the line has been fully drained and de pressurized
- c. Always operate the valve to the open position to ensure that no trapped pressure exists within the cavity
- d. Ensure that the valves are used within the pressure temperature service conditions as per the Nameplate. Also refer nameplate for pressure and temperature limits. In case of additional assistance, consult with AIL

- e. The valve lever / wrench / gear operator are designed only for operation. These lever / wrench / gear operator must not be used for handling the valve.

4. Preparation for installation

- a. When shipped, a rust preventive oil is applied on the valve bore and other machined exposed surfaces in carbon steel valves. This can be removed with a commercial solvent if necessary.
- b. Valve internals are clean and free of dirt, grit and other extraneous particles.
- c. Some valves contain a silica Gel bag inside the ball cavity to absorb moisture during storage .These must be removed before installation as must all other protective packaging
- d. Significant problems can arise with any valve installed in unclean pipeline. Ensure that the pipeline has been flushed free of dirt, weld spatter etc before installation.
- e. Use proper gaskets and bolting as per the standard recommendations for installing the valves on the line.
- f. End protectors should be removed before installation of the valves

Warning :

All valves are pressure tested at the factory. Should customer desire a test before installation, ensure test pressures are within the limits.

5. Installation

- a. Standard valves may be installed in either direction.
- b. It is suggested that the valve be kept in the Open position when installing on the pipe line.
- c. Valves should be installed with the stem in a horizontal position or in a position above the horizontal. Use of valves with the stem position hanging below is not recommended.
- d. Installation of flanged valves should follow prevailing site standards. The following will also be considered.
- e. **Installation of valves with flanged end construction**
 - e1. The valve ends and the pipe ends / flanges should be aligned.
 - e2. Pipe work in flanged construction should have the correct gap to allow for the valve face to face and assembled gasket thickness.
 - e3. Flange bolting for end flanges shall be of the correct size, length and material for the service conditions. As a minimum the material shall be the same as that used for the valve body / bolting
 - e4. Assemble all bolts and tighten loosely. Diametrically and evenly tighten the bolts to the correct torque required for the specific gasket material.

Warning:

Valves should be kept in the open position during installation. In case of removal of a valve from a pipe line, the valve should be in closed position.

- g. Ensure that there is access to the wrenches / gear operators for convenient operation of the valve. When required, necessary extension arrangements such as chain wheel and extension arrangements can be considered.

6. Operation

Ball valves should be used in the fully closed or fully open position only. These valves must never be used for regulation duty. It is not good practice to leave a standard ball valve in the partially (throttled) position as this may cause damage and seat life may be reduced. Flow control ball valves are available which contain seat specially designed seat

Any media which may solidify, crystallize or polymerize should not be allowed to stand in the ball cavity since this is detrimental to valve performance and life. If used for liquid service attention should be given for the Pr. Built up in the cavity

Valves are opened by turning the lever/ wrenches 90° in the anti-clockwise direction and closed by rotating in the clockwise direction. It is possible to see when the valve is open or close by the position of lever/wrench. When the lever/wrench is in line with pipeline, the valve is open and when the lever/wrench is across the pipeline valve is closed. Similarly if the lever/wrench is removed the flats of the stem also indicate the valve position. For gear operated valves, a position indicator is provided on top of the gear unit, which identifies whether the valve is in closed or open position.

Gear operated valves are fitted with fully enclosed water tight gear units. The housing is fitted with lubricant and do not need any maintenance during the normal life of the valves.

Remote Operation:

Where automation of valve is required a pneumatic actuator can be supplied. Operation will be as per Installation, Operation and maintenance instructions for the relevant actuator

7. Maintenance

General

With self-wipe ball/seat AIL ball valves have a long trouble free life and maintenance is seldom needed. The following checks will help extend life further and reduce plant problem

Stem Leakage

In case of stem leakage, the wrench assembly to be removed. Examine the disc springs for damage. If in good condition, tighten the gland nut until the disc springs are fully compressed. If damaged, dismantle the stem down to the gland, fit new disc springs with their outer edges touching and tighten using new gland nut. If the stem leakage is not arrested by the above procedure, dismantling may be required.

In-line Leakage

Check that valve is fully closed. If it is , then any leakage will be due to seat or ball sealing surfaces and it will be necessary to dismantle the valve to repair.

Leakage across the Body Joint

With valve and line depressurised check the tightness of the body fastenings. If slack tighten to the recommended fastening Torque. If leakage persists, it will be necessary to dismantle the valve to establish whether the body seal faces have been damaged and to replace the body seal

Refurbishing

Use only genuine AIL ball valve spares. These can be ordered from our authorized distributors or from AIL directly.



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AUDCO INDIA LIMITED
ENGINEERING PRODUCT FILE

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Series Index

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Page 1 of 1

PRODUCT : FLOATING TYPE STEEL BALL VALVE

DOCUMENT TITLE: DECLARATION OF CONFORMITY

Manufacturer :

Audco India Limited ,
Mount Poonamallee Road , Manapakkam , Chennai-600 089, India
Plant at Enathur, Kancheepuram Taluk, Tamil Nadu-631 552, India.

Description of Pressure Equipment :

Floating type Steel Ball Valves.

Conformity Assessment Procedure:

Module ' H ' of the Pressure Equipment Directive 97/23/EC- Up to Category III, Group 1 & 2

Notified Body Carrying out inspection and monitoring of manufacturers Quality Assurance System :

DET NORSKE VERITAS, VERITASVEIEN 1, 1322 HOVIK, NORWAY (No : 0575)

Technical Standards and Specification used :

ISO 17292	Metal Ball valves for Petroleum, Petrochemical & allied Industries
BS 5351	Specification for Steel Ball valves for Petroleum, Petrochemical & allied Industries
ASME B 16.34	Valves-Flanged, Threaded and welding Ends
EN 12516 Part – 1	Industrial Valves – Shell design strength
API 6D	Specification for Pipeline Valves (Gate, Plug, Ball and Check Valves)
API 608	Metal Ball Valves – Flanged, Threaded and Welding Ends
EN 12266	Industrial Valves – Testing of Valves
API 598	Valve Inspection & Testing
BS 6755 Part 1	Testing of valves – Specification for Production pressure testing requirements

Other Community Directives:

Not applicable

Authorized Person for the Manufacturer :

Signature

Name

Position

Date

G.RAVINDRAN Sr. DGM- Product Design & Development 25.07.2008