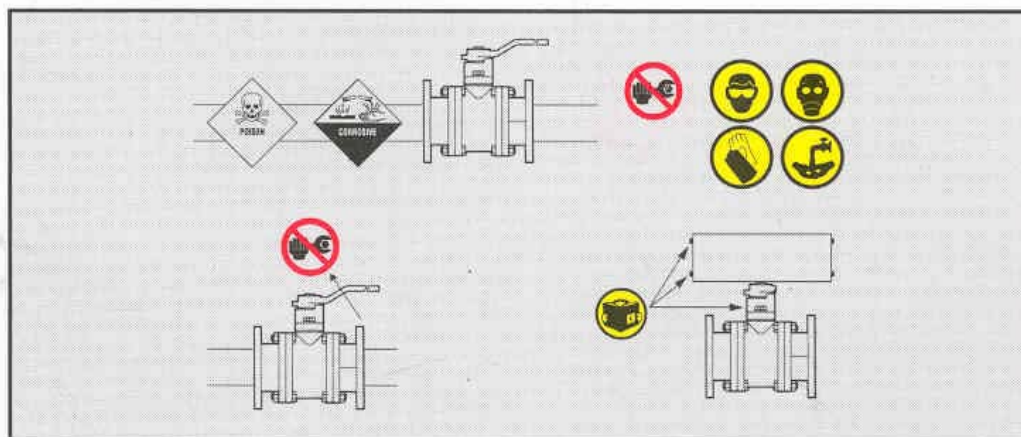
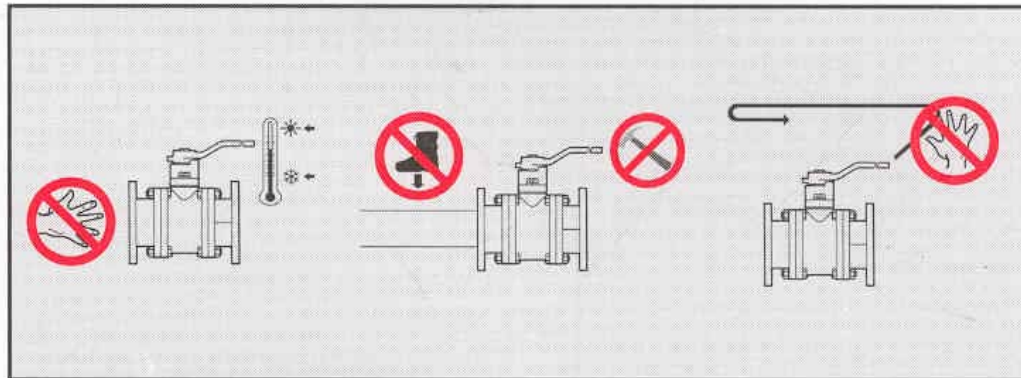
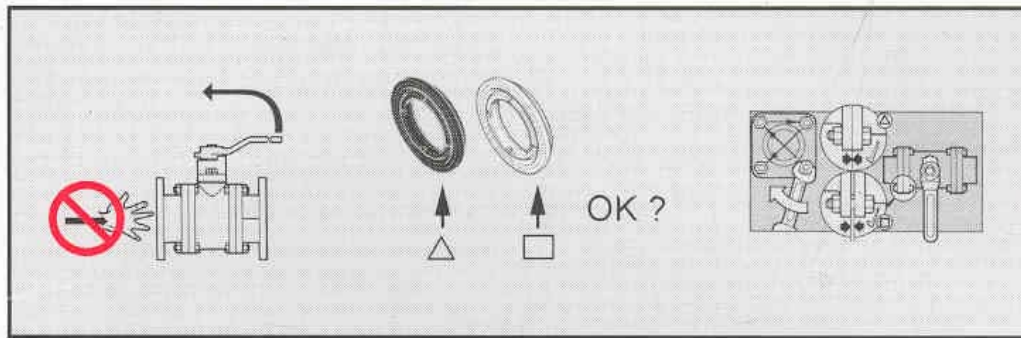


Saunders Ball Valves

Key Safety Instructions for Storage, Installation, Operating and Maintenance



STORAGE (seats & seals)

To achieve a long shelf life, we Recommend spare seats and seals are stored in bags on wooden shelves, away from direct sunlight and ozone (which can be formed by electrical equipment).

Do not place other articles on seats, to avoid possibility of deformation, or mechanical damage which may affect valve seal performance.

PRE-INSTALLATION

Check valve for:

- Correct materials of construction.
- Physical damage.
- Correct open/closed function.
- Cleanliness / freedom from foreign matter.
- Body flange fastening tightness (see recommended bolting torques).
- Bonnet fastening tightness.
- Seat grade for service suitability.

INSTALLATION AND OPERATION

Ensure that valves are properly aligned and the connecting pipework adequately supported to

prevent undue stress being imposed on them. Locating valves at points of large bending moments, in mis-aligned pipework and close to bends or pumps should be avoided. For GMP a minimum of 6 x D is recommended.

Ensure that the intended service conditions are within the pressure/temperature rating of the valve as stated in our catalogue. Where there is an appropriate application standard or code of practice it is the responsibility of the purchaser to ensure that the requirements are complied with.

Before commissioning the system must be thoroughly flushed through to remove all traces of foreign matter such as rust, pipe scale, beads of welding metal etc., which could cause damage to the valve seating faces.

Before putting the valve into service to ensure that the body/end connection nuts of all valves are correctly adjusted to provide seal to atmosphere (see bolting torques overleaf).

During the first 24 hours in the service further adjust the body/end connection nuts to follow up any relaxation of the seats.

To fit replacement rubber or PTFE seats, turn the valve to the closed position. During tightening of the bolts move the lever back and forth approximately 5-10° to avoid damage of the seat face. See table for body/end connection gaps and tightening procedure.

USE

The mechanical efficiency of the lever is such that normal manual effort is sufficient to give leaktight closure against recommended working pressures.

Never use a wrench or pipe lever for closure.

Maximum recommended working pressures are based on the assumption that the operator will have reasonable access to the valve. If the valve will not operate in either the open or closed positions, isolate, drain system and service.

INSPECTION / SERVICE / MAINTENANCE

During normal operation, valves should be periodically inspected for corrosion, wear, damage and leakage and appropriate action must be taken as found necessary. When full inspection/service/maintenance becomes necessary this will be carried out when the

Plant is shut down or when the valve in question can be isolated from the rest of the system, and the line is empty and safe to work on.

Consult the appropriate valve type maintenance sheet in Saunders Technical Data Manual.

Before dismantling ensure that the valve and associated piping are relieved of pressure and temperature. Check that the adjacent drain valves and vent valves are open and not discharging.

On removal of the valve, set ball/lever in 20% open position and position ball valve vertically to drain line media from ball and body cavity. Wear protective clothes and eye protection.

SAFETY

- PRIOR TO ANY MAINTENANCE ON THE VALVE PLEASE REFER TO APPLICABLE COSHH REGULATIONS OR HEALTH AND SAFETY DATA RELATING TO THE LINE MEDIA BEING HANDLED.
- NOT SUITABLE FOR UNSTABLE GASES.
- DO NOT EXCEED THE MAXIMUM PRESSURE AND TEMPERATURE LIMITS.
- PRESSURES SURGES NOT EXCEED 10% OF MAXIMUM ALLOWABLE PRESSURE.
- VALVES ARE NOT DESIGNED FOR: TRAFFIC, WIND, EARTHQUAKE LOADING.
- VALVE IS NOT FIRESAFE.

Torque Application

This should be carried out at pre-installation or when maintenance is required, using a torque wrench set to the values in the table below.

Recommended Body / End Connection Bolting Torques

Valve Size DN	Type M/MP For PTFE Seats		
	lbf.ft	Nm	Seat Gap (mm)
15	18.4	25	0.4-0.7
20	18.4	25	0.4-0.7
25	18.4	25	0.4-0.7
32	18.4	25	0.4-0.7
40	22.1	30	0.4-0.7
50	33.2	45	0.4-0.7
65	14.8	20	0.4-0.7
80	22.1	30	0.4-0.7
100	22.1	30	0.4-0.7

Valve Size DN	Type M/MP For Rubber Seats		
	lbf.ft	Nm	Seat Gap (mm)
15	18.4	25	0
20	18.4	25	0
25	18.4	25	0
32	18.4	25	0
40	22.1	30	0
50	33.2	45	0
65	14.8	20	0
80	22.1	30	0
100	22.1	30	0