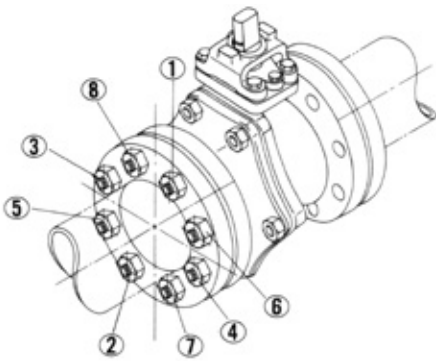




KTM 2-WAY, 3-WAY AND V-PORT BALL VALVES INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

Before installation these instructions must be read fully and understood

FIGURE 1
Bolting procedure



These instructions summarize the main warnings concerning the routine operations as per the related installation and maintenance manual.

Storage

When valves are to be stored for some time before being fitted, storage should be in the original delivery crates with any waterproof lining and/or desiccant remaining in place. Storage should be off the ground in a clean, dry, indoor area. If storage is for a period exceeding six months the desiccant bags (if supplied) should be changed at this interval. The ball valves are delivered with the ball in full open position and should be stored as they are. Keeping the ball in other position or half opened position for an extended period of time could cause seat leakage.

Protection

Valves are delivered with protection according to customer's specification, or in accordance with the quality assurance manual, to protect the valve seats and closure member from damage. Wrapping and/or covers should be left in place until immediately before fitting to the pipe.

Selection

Ensure the valve's materials of construction and pressure/temperature limits shown on the identification plate are suitable for the process fluid and conditions. If in doubt contact the manufacturer.

Transportation

- When lifting the ball valve by crane or hoist, avoid hooking to inadequate areas of the valve. Inadequate hoisting could cause deformation of the valve or falling of the valve.
- Do not carry the valve by its handle, or the valve could drop down which will damage the valve or injure the person.

INSTALLATION

Refer to Figure 1

1. Valves are bi-directional as standard, unless otherwise stated, and may be fitted in either direction.
2. Installation may be carried out with stem displaced through any angle permitted by the bolting.
3. Remove protective covers from valve faces.
4. Ensure that mating flanges and gaskets are clean and undamaged.
5. Should there be any possibility of abrasive particles (weld slag, sand etc.) within the piping system, this could damage valve seating areas. The system will need to be flushed clean.
6. Ensure mating pipe flanges are aligned correctly, bolting should be easily inserted through mating flange holes.
7. Fit the valve into pipework ensuring easy access of the lever/handwheel.
8. Tighten the flange bolts in a diagonal pattern. Uneven tightening could cause leakage or gasket damage.
9. When sealing tape or sealing gel type material is used, ensure that no torn off piece or solidified fragment get into the pipe system.

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INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

PRESSURE TEST

- In case of pressure test of the pipe system, the valve should be in a half-open position and check the leakage from joint connection or gland. If the test is performed with the valve in close position, overload pressure on the seat could cause seat leakage.
- The ball valve should be operated to either full open or closed position. Prolonged use in a half-open position could cause seat deformation or seat leakage.

OPERATION

Refer to Figure 2

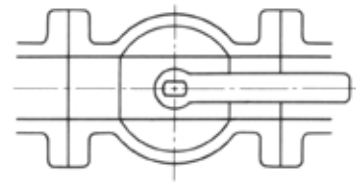
- The closed position of KTM ball valves is indicated by either the handlever or the direction of the parallel flats on the top of the stem (see picture).
- All standard manually operated valves are 'clockwise to close'.
- The valve requires no 'additional tightening' to shut off, excessive handle operation could break the lever, injure the operator, or deform the stopper or stem which may lead to seat leakage.

MAINTENANCE

Refer to Figure 3

No routine maintenance is required other than periodic inspection to ensure satisfactory operation and sealing. Any sign of leakage from the gland packing should be addressed immediately by depressurizing the valve and tightening the gland screws gradually and evenly. If no further adjustment is possible, or if seat or joint leakage is suspected, the valve will require a complete overhaul. This should be carried out after depressurization and in accordance with specific maintenance Instructions. Only original spares should be used.

FIGURE 2
Open position



Closed position

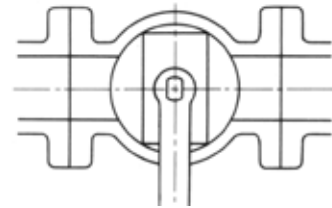
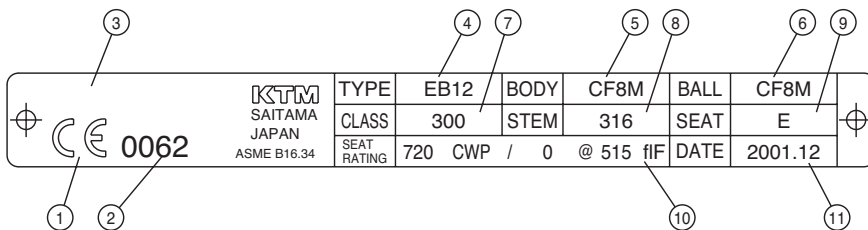


FIGURE 3
Tagplate



PARTS LIST

Item	Description
1	CE marking
2	Number of notified body
3	Identification and manufacturer
4	Valve type
5	Body material
6	Ball material
7	ASME class
8	Stem material
9	Seat material
10	P/T rating (max/min) of seat
11	Year and date of manufacture