The requirement of Install Condition

Usage condition

1. Temperature and pressure limit, please reference to the nameplate to see the appropriate usage range of temperature and pressure.
2. Fluid：Non-corrosive fluids are fit for use. If the fluid is corrosive, please contact with the manufacturer or ordering demand.
3. Installation demand
   a. Installation regarding to the flow direction, please see the cast direction of check valve body. (see Fig. 1)

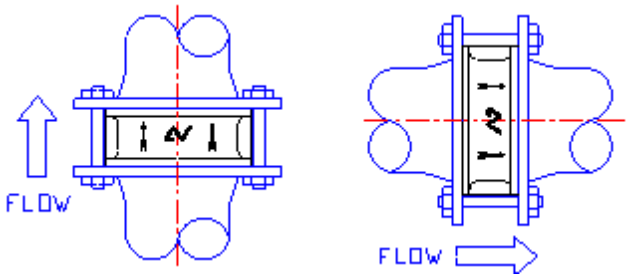
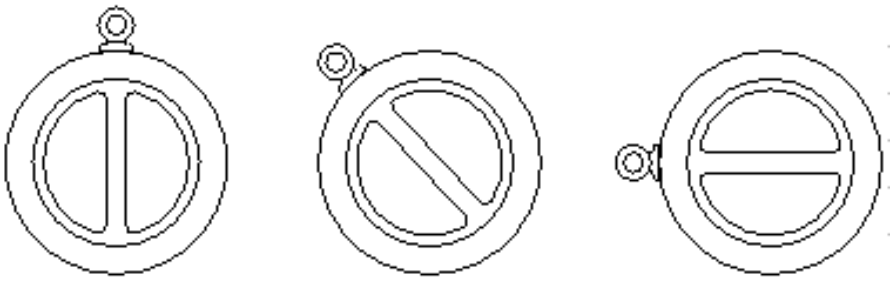


Fig. 1.

   b. It can be installed in vertical piping.
   c. In the horizontal piping, please install the valve vertically according to the Fig. 2.



○ **YES** × NO × NO

Fig.2.

   d. When installing wafer Check near an elbow, leave a space as large as possible between an elbow and Wafer Check Valve and be sure that the plate is stressed evenly. (see Fig. 3)

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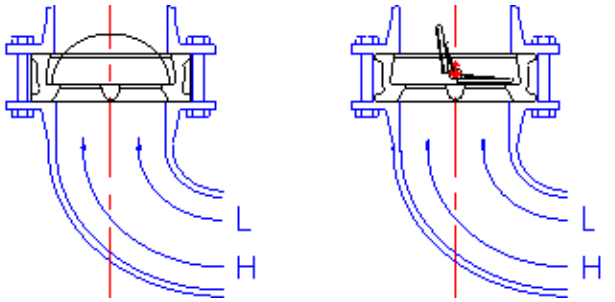


○ **YES** × NO

Fig.3.

e. Avoid entering the end of a tube or gasket within the opening area of a radius of the wafer Check plate. (see Fig. 4)

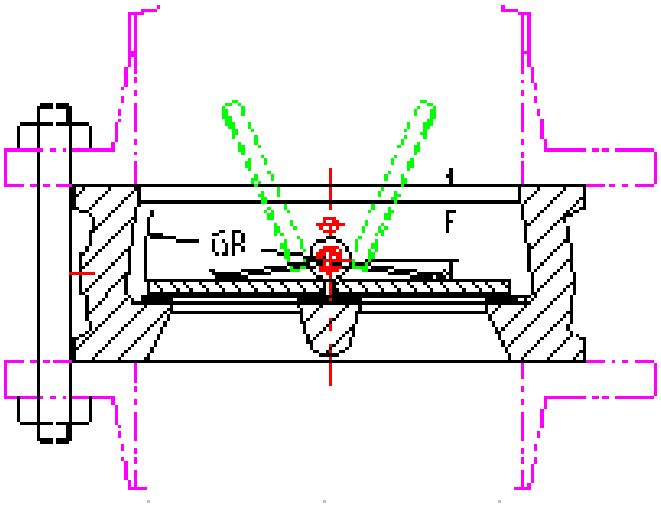


Fig.4.

f. It will affect the turbulence, vibration, and abrasion within pipes when considering the flow. We suggest the pipes be installed by 5D-5D ("D" means the diameter of the pipes.)(see Fig. 5)

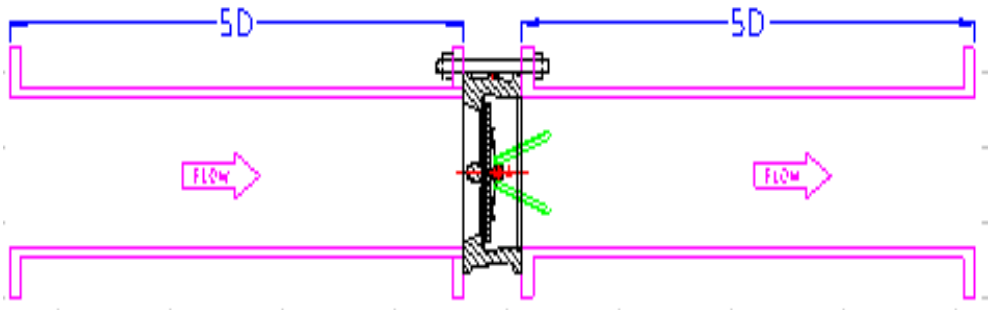
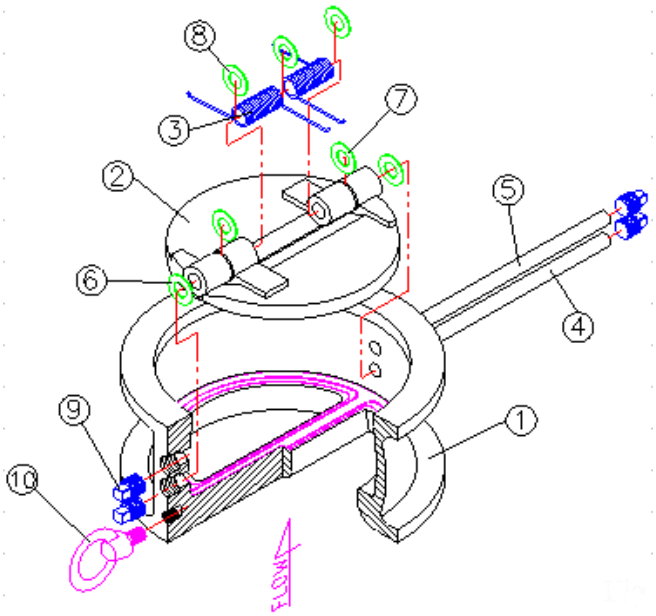


Fig.5.

Maintenance Instruction

1. Please check the spring, main parts of the valve, whether it is broken.
2. Please check the abrasion of the parts of the valve.
3. Please check the action of the valve whether it's action interfere with other parts.
4. If it is necessary to replace the parts of the valve, Please disassemble and assembly the valve according to the figure below.
5. If the valve is metallic, please clean and wash it after disassembling according to the figure below.
6. For the safety consideration, please check the wall thickness and clear it once a year.



Part Name

1 Body
2 Plate
3 Spring
4 Hinge Pin
5 Stop Pin
6 Body Bearing
7 Plate Bearing
8 Spring Bearing
9 Plug
10 Eye Bolt

Fig. 7

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Warning:

1. Please be sure that there is no high pressure and temperature within the piping system when you disassemble that valve for maintenance or replacement from the piping system
2. It maybe lead to rupture on body when the temperature and pressure are exceeding their range. Furthermore, it maybe danger people's safety and failure of piping system. Therefore, it's necessary for user to choose the appropriate materials to meet the piping requirements of the fluid type, pressure and temperature.
3. If a serious leakage happened when piping system operated, please replace a new valve immediately and contact Astam people.
4. When the piping system is operating, don't touch the valve or you would get hurt.
5. If there is unknown noise and vibration happened after installation, please check if the installation is followed the instruction or contact Astam people.

Before Installation

Valves stay in the open condition during the transportation. For incoming QC, it must be checked:
(1) Packing condition: is there any damaged during the transportation.
(2) The bolts of cap and yoke: to make sure the bolt does not loose tightness when it arrived.

When the valve is not put into immediate service, it is required that the valve be stored in a heated building that is fire resistant, weather tight and well ventilated. Storage area shall be situated and constructed so that it will not be subject to flooding and any corrosive chemicals present. Value valves recommends that all valve actuator be cycled approximately every 60 days or as required by the manufacturer of the actuation system. Any spare parts for the valve shall be stored in the original packaging and under the same conditions as the valve will stored.

For storage greater than 4 months, the storage container should be inspected every four (4) months to ensure it is in good condition, and any additional protective coverings or materials are in working order. Ensure all parts are plugged, and bare metal is covered with a suitable rust inhibitor.

Installation and Operation

Handling

During the gate valve installation, it must follow the procedure to hand at the both side of the bodies, the cable must be strong enough to ensure the safety during the installation.

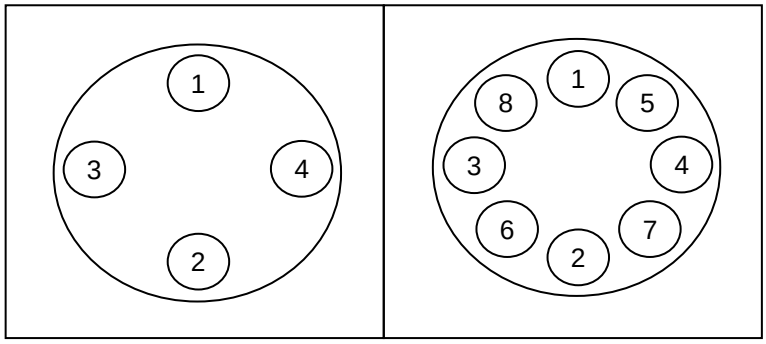
Cleaning

Even the valves was transported under a clean environment, operator must check is there any foreign body or dusts inside the bore. If yes, clean it before installation. Operator clean the valves by water, compression air, or steam (automation valve shall be cleaned only with water or steam, the compression air is not allowed.) For cleaning operation, first step is put the valve bore perpendicular to the ground and clean, ensure all the dusts can be removed from the bore. The second step is checking and clean all the connecting pipe bore and connection area. No flush, rust and foreign bodies allow to avoid the blocking and leakage.

Valve Installation

1. Carefully check the sensibility of actuator to prevent block before installation.
2. Valve is recommended to be installed at location 1.2m from the ground for convenient of operation, where the center of valve and hand wheel is over 1.8m from the ground, a platform shall be built for the frequently operated valve. For pipeline with numbers of valves, valves shall be installed on the platform as likely as possible for convenient of operation.
3. For single valve installed at location over 1.8m and less operated, apparatus may be used such as chain-wheel, extension bar, move platform and move ladder etc. Where valve is installed underground, extension bar or ground-well shall be set. For safety reason, the ground-well shall be covered.

4. For valve installed on horizontal pipeline, the stem is suitable at uprightness position;
   Or the downward stem shall be inconvenience for operation and maintenance, as well the valve is liable to corrosion. If the ground valve slant installed, operation and maintenance shall also be inconvenience.
5. When valve are installed in pipeline side by side, enough space shall be considerate for operation, maintenance and dismantle. The clearance of hand wheels shall not less than 100mm; in case of narrow clearance, valves shall be installed interleaving.
6. Support shall be set for valve with great open torque, lower strength and fragile and heavy weight for bearing the valve. The lesser mount of this kind valve, the better.
   The valve shall be set as near as the general pipeline. Please see the drawings below for the order of bolts installation.



As for torque data, please refer to the provided torque data, or please check with our salesman.

Operation

During the gate valve installation, it must follow the procedure to hand at the both side of the bodies, the cable must be strong enough to ensure the safety during the installation.

Maintenance

1. Dust, grease and medium residual trend to accumulate at the surface of body, stem, the trapezoid thread of stem nut, the guide of yoke and gears etc, wear and erode the valve, and shall be cleaned frequently.
2. After put into use, valve shall be checked and maintenance periodically especially for the situation of sealing surfaces and worn, the age of packing and the corrosion of body. In case of such situation, valve shall be repaired or replaced.
3. Upon reparation, valve shall be listed for reference.
4. Potential failures and trouble shooting.

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Troubles and countermeasures

FAILURE	CAUSE	COUNTERMEASURES
Leakage of packing	1. Gland flange nuts loose. 2. Rings of packing not enough. 3. Packing aged or failure. 4. Stem sealing damaged.	1. Equally tighten eyebolt nuts. 2. Add packing. 3. Replace packing. 4. Stem shall be maintained by reparation or replacement conjunction with the maintenance of pipeline facilities.
Leakage between sealing surface	1. Dirties between sealing surfaces. 2. Sealing surface damaged.	1. Clean sealing surface. 2. Repair the sealing surfaces.
Operation failure	1. Packing too tight. 2. Stem nut over worn. 3. Stem bent. 4. Foreigner existence between stem and stem nut or gland or flange.	1. Proper loose gland flange nuts. 2. Replace stem nut. 3. Rectify or replace stem. 4. Clean foreign matter.
Leakage between bonnet flanges	1. Bonnet Bolts loose. 2. Bonnet gasket failure.	1. Proper tighten bonnet nuts. 2. Replace bonnet gasket.
Body and bonnet broken and leaked	1. Static head. 2. Fatigue	1. Carefully operation to prevent suddenly stopping pumping and rapidly shutting. 2. Replace valve that exceeds guarantee period or is found with early fatigue defection. 3. Drain away water in winter when valve is not used.
Disc failed to open	1. Disc blocked in the body. 2. Stem is overheated and blocks the disc.	1. Use proper torque. 2. When the valve is closed and the pipeline is heated, rotate the hand wheel some bit countercloskwise for unload at interval.

Note: As to the trouble other than mentioned above, please contact us for overhaul.

Quality Assurance and Service

1. Warranty Periodis 12 months from the delivery date.
2. **Service:** Manufacture will follow up the quality of the valve provided and offer service in accordance with contract specified.

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Before Installation

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(1) Packing condition: is there any damaged during the transportation.
(2) The bolts of cap and yoke: to make sure the bolt does not loose tightness when it arrived.

When the valve is not put into immediate service, it is required that the valve be stored in a heated building that is fire resistant, weather tight and well ventilated. Storage area shall be situated and constructed so that it will not be subject to flooding and any corrosive chemicals present. Value valves recommends that all valve actuator be cycled approximately every 60 days or as required by the manufacturer of the actuation system. Any spare parts for the valve shall be stored in the original packaging and under the same conditions as the valve will stored.

For storage greater than 4 months, the storage container should be inspected every four (4) months to ensure it is in good condition, and any additional protective coverings or materials are in working order. Ensure all parts are plugged, and bare metal is covered with a suitable rust inhibitor.

Installation and Operation

Handling

During the gate valve installation, it must follow the procedure to hand at the both side of the bodies, the cable must be strong enough to ensure the safety during the installation.

Cleaning

Even the valves was transported under a clean environment, operator must check is there any foreign body or dusts inside the bore. If yes, clean it before installation. Operator clean the valves by water, compression air, or steam (automation valve shall be cleaned only with water or steam, the compression air is not allowed.) For cleaning operation, first step is put the valve bore perpendicular to the ground and clean, ensure all the dusts can be removed from the bore. The second step is checking and clean all the connecting pipe bore and connection area. No flush, rust and foreign bodies allow to avoid the blocking and leakage.

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3. For single valve installed at location over 1.8m and less operated, apparatus may be used such as chain-wheel, extension bar, move platform and move ladder etc. Where valve is installed underground, extension bar or ground-well shall be set. For safety reason, the ground-well shall be covered.

4. For valve installed on horizontal pipeline, the stem is suitable at uprightness position;
   Or the downward stem shall be inconvenience for operation and maintenance, as well the valve is liable to corrosion. If the ground valve slant installed, operation and maintenance shall also be inconvenience.
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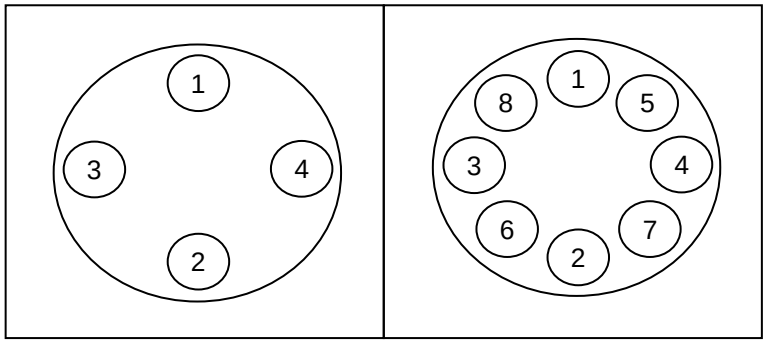

As for torque data, please refer to the provided torque data, or please check with our salesman.

Operation

During operation, the disc is required fully opened or fully closed. It's not recommended to partly open the valve for adjustment of flow rate.

Maintenance

1. Dust, grease and medium residual trend to accumulate at the surface of body, stem, the trapezoid thread of stem nut, the guide of yoke and gears etc, wear and erode the valve, and shall be cleaned frequently.
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Leakage between bonnet flanges	1. Bonnet Bolts loose. 2. Bonnet gasket failure.	1. Proper tighten bonnet nuts. 2. Replace bonnet gasket.
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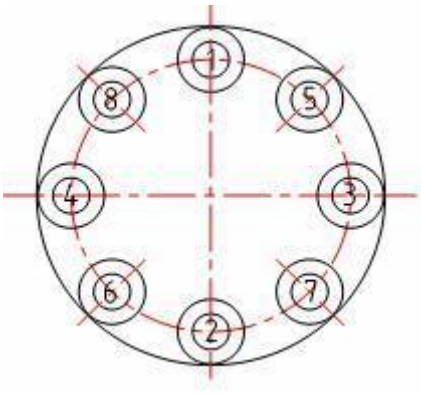

Operation

Maintenance

1. Dust, grease and medium residual trend to accumulate at the surface of body, stem, the trapezoid thread of stem nut, the guide of yoke and gears etc, wear and erode the valve, and shall be cleaned frequently.
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3. Upon reparation, valve shall be listed for reference.
4. Potential failures and trouble shooting.

Troubles and countermeasures

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Leakage of packing	1. Gland flange nuts loose. 2. Packing aged or failure.	1. Equally tighten eyebolt nuts. 2. Replace packing.
Leakage between sealing surface	1. Dirties between sealing surfaces. 2. Sealing surface damaged.	1. Clean sealing surface. 2. Repair the sealing surfaces.
Operation failure	1. Packing too tight.	1. Proper loose gland flange nuts.
Leakage between bonnet flanges	1. Bonnet Bolts loose. 2. Bonnet gasket failure.	1. Proper tighten bonnet nuts. 2. Replace bonnet gasket.
Body and bonnet broken and leaked	1. Static head. 2. Fatigue	1. Carefully operation to prevent suddenly stopping pumping and rapidly shutting. 2. Replace valve that exceeds guarantee period or is found with early fatigue defection. 3. Drain away water in winter when valve is not used.

Note: As to the trouble other than mentioned above, please contact us for overhaul.

Quality Assurance and Service

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2. **Service:** Manufacture will follow up the quality of the valve provided and offer service in accordance with contract specified.

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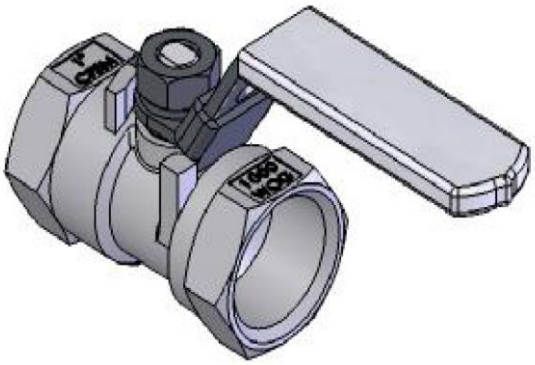
ASTAM VALVE



IMO-101

1 - PIECE THREADED BALL VALVE

(BT-1BV、BT-1BK、BT-1MM、BT-1C)

DISASSEMBLY

NOTE: If complete disassembly becomes necessary, replacement of all seats and seals is recommended. Refer to Service Kit chart.

1. Close the valve. Then remove the upper stem nut (12), spring-washer (11), handle (13) and disc washer (10), plate washer (9).

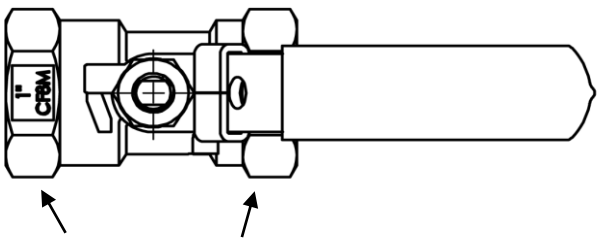
2. Unscrew and remove the cap (2) and joint gasket (5). Heat may be required.

3. If the ball (3) and ball seats (4) do not tall from the body with the ball in the fully closed position, use a piece of wood or some other soft material to gently tap the ball (from the end opposite body cap).This will unseat these parts without damaging the ball.

4. Press the stem (6) from the top into the valve body and remove it through the cap end of the body.

5. Using a wire brush, clean the cap thread and body threads to removeany excess thread lock.

6. Using a pointed instrument, pry out and discard the old stem packing (8),thrust washer (7), if applicable. Be very careful not to scratch and sealing surfaces in the valve body (surfaces on which seats and seal rest).



WRENCHING HERE (HEX FLATS)
WHEN INSTALLING REMOVING
PIPE THIS END

WARNING

For Your Safety, It Is Important That The Following Precautions Be Taken Prior To Removal Of The Valve From The Line Or Before Any Disassembly.

1. **Wear any protective clothing or equipmentnormally** required when working with the fluid involved.

2. **depressurize the line and cycle the valve as follows:**
   A. Place the valve in the open position and drain the line.
   b. Cycle the valve to relieve residual pressure in the body cavity before removal from the line.
   c. After removal and before any disassembly, cycle the valve again several times.

3. When installing or removing piping from the valve, place a wrench on the body or the body cap nearest the end being worked. Make certain body cap end of valve does not turn out of the valve body. (body/body cap joint is a right hand thread) note: if fitting of pipe removal is to be a regular practice, lung yun recommends using welded end ball valve insteasd.

INSTALLATION

The valve may be installed for flow in either direction. It is recommended, however, that a screwed valve be installed with the body cap facing upstream. Use standard piping practices when installing valves with threaded parts. When tightening the valve to the pipe, apply the wrench to the end nearest the pipe being worked. Adjust packing prior to installation.

MAINTENANCE

Periodically observe the valve to be sure of proper performance.
More frequent observation is recommended under extreme operating conditions.
Routine maintenance consists of tightening the stem nut 1/4 turn periodically to compensate for the wear caused by the stem's turning against the resilient PTFE seal.

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ASTAM VALVE

ASSEMBLY

1. Clamping valve body (1) securely in a vise, drop in one ball seat (5) with the flat surface on the bottom.
2. Insert from the inside a thrust washer (8), into the lower stem bore
3. Insert the stem (4) through the open end of the body (1), being careful not to scratch the stem bearings and thrust washer surfaces. Press it gently up into the stem hole.
4. Holding the stem bearing in place from inside the valve, install one stem packing (7), and thread on one of the gland nut (12).
5. Align the stem blade inside the valve body (1) with the ball (3). Insert the ball (3) and rotate the stem (4) to the ball fully closed position.
6. Insert second ball seat (5) into the cap (1) so that the sealing surface of the ball seat is towards the ball. Insert the joint gasket(6).
7. Apply Loctite 272 or equivalent, one bead 360° around the body cap (2) covering a minimum of two threads.
8. Insert the cap (2), screw it down and tighten to the required torque. (See Table 1 for Cap Torque specification).
9. Place the handle (10), spring washer (9) and stem nut (11) over the stem (4). Tighten the stem nut (11) until snug.
10. Cycle the valve slowly twice to ensure permanent position of the ball between the two ball seats.

SERVICE KITS

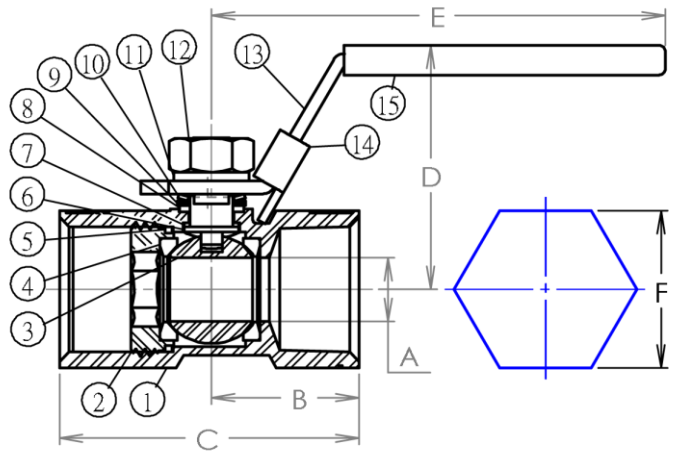
Service kits include two ball seats (4), one stem packing, one thrust washer, and one joint gasket

Table 1
Body Cap Assembly Torque

Valve Size	BT-1BV	BT-1BK	BT-1MM	BT-1C
1/4”-1/2”	100LB-FT	100LB-FT	105 LB-FT	105 LB-FT
3/4”	180LB-FT	180LB-FT	205 LB-FT	205 LB-FT
1”	330 LB-FT	330 LB-FT	305 LB-FT	305 LB-FT
1-1/4”	430 LB-FT	430 LB-FT	335 LB-FT	335 LB-FT
1-1/2”	560 LB-FT	560 LB-FT	370 LB-FT	370 LB-FT
2”	730 LB-FT	730 LB-FT	405 LB-FT	405 LB-FT

Table 2
Service Kits

Valve Size	BT-1BV	BT-1BK	BT-1MM	BT-1C
1/4”	HA-1BV 03	HA-1BK 04	HA-1MM 04	HA-1C 04
3/8”	HA-1BV 03	HA-1BK 04	HA-1MM 04	HA-1C 04
1/2”	HA-1BV 04	HA-1BK 04	HA-1MM 04	HA-1C 04
3/4”	HA-1BV 06	HA-1BK 06	HA-1MM 06	HA-1C 06
1”	HA-1BV 10	HA-1BK 10	HA-1MM 10	HA-1C 10
1-1/4”	HA-1BV 12	HA-1BK 12	HA-1MM 12	HA-1C 12
1-1/2”	HA-1BV 14	HA-1BK 14	HA-1MM 14	HA-1C 14
2”	HA-1BV 20	HA-1BK 20	HA-1MM 14	HA-1C 20



No.	PART'S NAME	MATERIAL	
1	BODY	CF8M	CF8
2	SPACER	CF8M	CF8
3	BALL	AISI 316 /CF8M	AISI 316 /CF8
4	BALL SEAT	PTFE	
5	JOINT GASKET	PTFE	
6	STEM	AISI 316	AISI 304
7	THRUST WASHER	RTFE	
8	STEM PACKING	PTFE	
9	PLATE WASHER	AISI 304	
10	DISC WASHER	AISI 304	
11	SPRING WASHER	AISI 304	
12	STEM NUT	AISI 304	
13	HANDLE	AISI 304	

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ASTAM VALVE

2-PIECE FLANGED BALL VALVE

USER MANUAL

IMPORTANT

Please read this manual before installation or servicing.

CATUION

1. Before installing or servicing, please ensure that the line pressure has been relieved and any hazardous fluid has been drained or purged from the system.
2. Please observe the max/min temperature & other information shown in label.
3. This valve is not suitable for unstable gas, H_2SO_4, HS, HCL (Any problem ,please contact manufacture.)

INSTALLTION

1. Before installing, check all valves and mating flanges to ensure gasket surfaces are free from defects.
2. Make sure all valves and lines are clean without any dirt or debris, which may cause valve seats damaged.
3. Checking the piping is the alignment with appropriate supports. It is not recommended to install valves to improperly positioned pipes.
4. Valves can be installed for flow in either direction. Before installing, inspect the valve by visual for avoiding any damages.
5. Install the valve to the pipeline and tighten bolts properly. Notice that the over tightening of any side may cause the leakage.

OPERATION

1. Rotate the handle in 90° (1/4 turn) counter-clockwise to the open position.
2. The handle should be parallel to the pipeline in the open position.
3. The handle is perpendicular to the pipeline in the close position.
4. It is not recommended to use for the solidified, crystallized, or polymerized media.

GENERAL MAINTENACE

It is recommended to observe the valves periodically for ensuring the system under the proper performance.

1. After disassembling the valve body, it is recommended to replace new seals.
2. All bolts of valve body are tightened by pre-set torques with the even distribution around of the body. So any tightening or loosening of these bolts may cause the leakage from the body gasket. When this occurs, replace the gasket and then tighten bolts with the suggested torque from the sheet A.

Please refer the spare kits drawing of <Figure C>when disassembling or assembling>

DISASSEMBLY

1. Before disassembling, ensure the line pressure and dangerous media have been relieved.
2. Turn the valve to the close position.
3. Remove the upper handle nut and handle (12).
4. Remove the snap catch (14), travel stop (13), gland nuts (16), and gland (9).
5. Loose bolts (16) of combination and then remove the cap (2) and gasket (11). Knock lightly if it is necessary.
6. Remove the ball (3) and seats (4). If the ball or seats can not be removed smoothly, it is recommended to use a tool knock them lightly (please use a soft material made tool so that it will not caused the ball damaged).
7. Press the stem (5) from the top toward the inside body and then remove it.
8. Use a wire brush to clean the body, cap, and ball.
9. Remove the old or damaged seals and be careful not to damage the combined surfaces of the valve.

ASSEMBLY

1. Insert the thrust washer (10) to the groove of the stem (5).
2. Insert the stem to the stem hole from the inside body, and then slip the stem packing (6) on the stem.
3. Slip the gland (9) on the stem. Align holes of the gland to the mounting holes of the body, and then tighten them according to the <Sheet A>. Pull out the stem if it is over pressed into the inside body because of the over tightening. Insert seats (4) into the body and cap separately.
4. Put the ball (3) into the body.
5. Slip the gasket (11) on the combined surface of the cap (2).
6. Combine the cap with the body (1). Tighten the bolts (16) with the diagonal according to the suggested torque <Sheet A>.
7. Slip the travel stop (13) and the snap catch (14) on the stem.
8. Slip the handle (12) and then tighten the nut.

TROUBLE SHOTTING

A - Replacing the Seats and Ball:

1. Turn the ball valve to the close position.
2. Loose the bolts (16) and then remove the cap (2) vertically.
3. Remove the ball (3) from the body (1) vertically.
4. Take out the damaged seats (4)and then replace new ones to the valve body and cap. (Note: Combine seats to the body and cap with the (a) side, <Figure A>)

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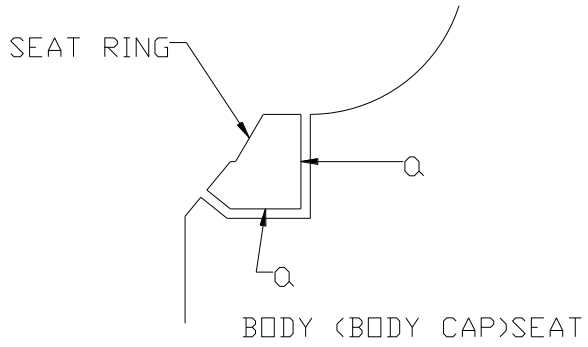
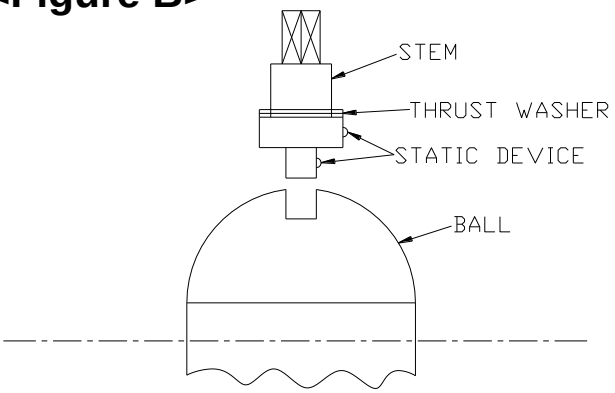
<Figure A>



5. Replace a new ball if the old one has been corroded or abraded seriously.
6. Insert the stem (5) into the groove of the ball and then adjust it to the proper position.
7. Replace a new gasket (11) is necessary after every disassembling.<Figure B>

.<Figure B>



8. Combine the body and cap.
9. Tighten the bolts in the diagonal according to the <Sheet A>.
10. Re-check all bolts are tightened properly.
11. Test the pressure with 225PSI to confirm there is no any leakage happened.

B - Replacing the Stem and Stem Packing:

1. Turn the ball valve to the close position.
2. Loose the bolts (16) and then remove the cap (2) vertically.
3. Remove the ball (3) from the body (1) vertically.
4. Remove the snap catch (14) and travel stop (13); loose the gland bolts (16); remove the gland (9).
5. Push the stem (5) toward the inside body and then remove it.
6. Remove the stem packing (6) from the stem.
7. Replace a new thrust washer (10) to the new stem.
8. Slip the stem packing and gland on to the stem.
9. Tighten the gland bolts in parallel according to the <Sheet A>.
10. Repeat A. step 6 ~10.
11. Insert the snap catch and travel stop to the Stem.
12. Test the pressure with 225PSI to confirm there is no any leakage happened.

<Sheet A>

Torque Unit: Nm			
Size	Stem	Bolts of Combination	Bolts of Gland
1/2”	11	> 7	> 15
3/4”	11	> 7	> 15
1”	19	> 8	> 20
1-1/4”	19	> 8	> 20
1-1/2”	50	> 16	> 20
2”	50	> 16	> 20
2-1/2”	70	> 18	> 40
3”	70	> 18	> 40
4”	140	> 18	> 40
5”	275	> 18	> 70
6”	440	> 18	> 70
8”	970	> 50	> 110
10”	1900	> 50	> 110
12”	3100	> 60	> 110

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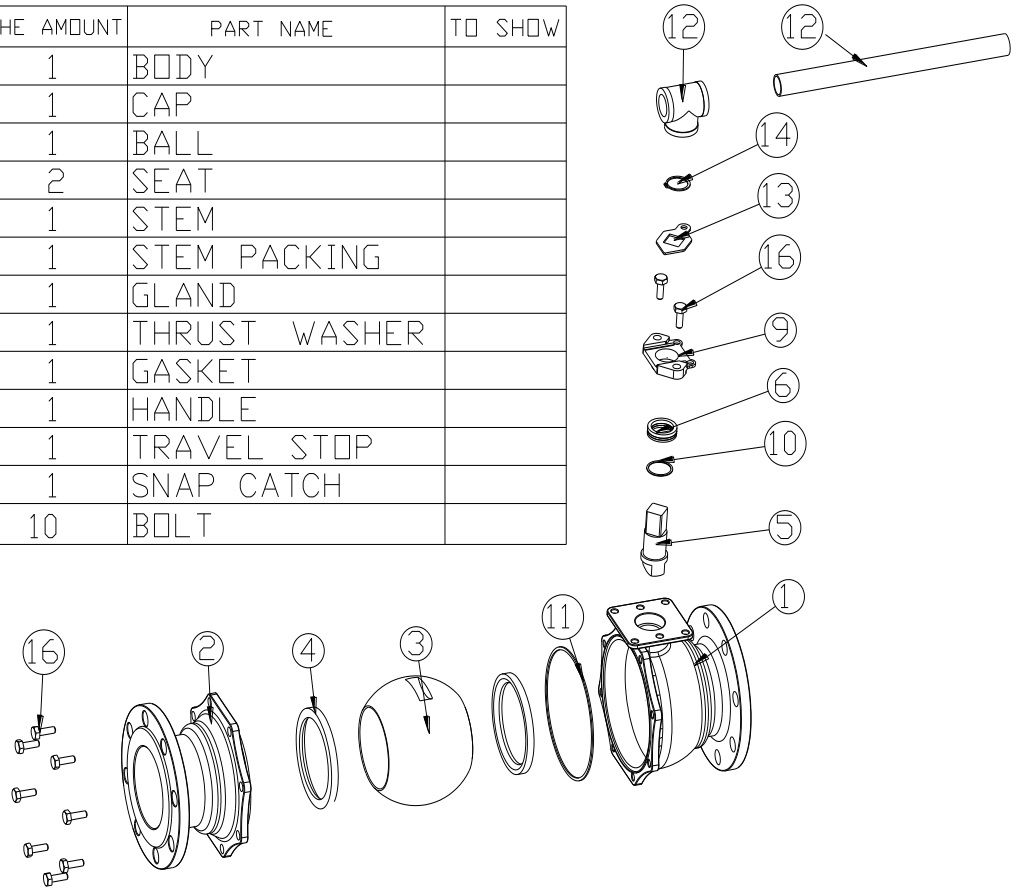
< Figure C >

NO	THE AMOUNT	PART NAME	TO SHOW
1	1	BODY	
2	1	CAP	
3	1	BALL	
4	2	SEAT	
5	1	STEM	
6	1	STEM PACKING	
9	1	GLAND	
10	1	THRUST WASHER	
11	1	GASKET	
12	1	HANDLE	
13	1	TRAVEL STOP	
14	1	SNAP CATCH	
16	10	BOLT	



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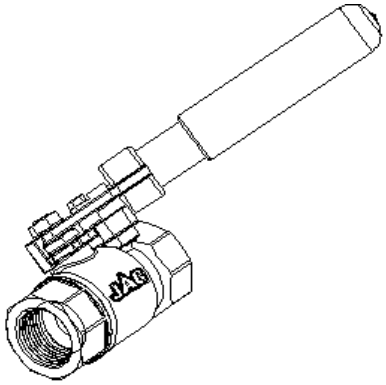
ASTAM VALVE



IMO-102

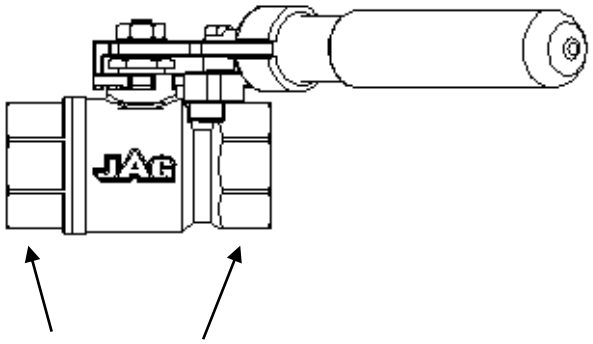
2 - PIECE THREADED BALL VALVE

(BT-2MM、BT-2CM、BT-2HM、BT-2HA、BT-2KK、BT-2KV、BT-2DS)

DISASSEMBLY

NOTE: If complete disassembly becomes necessary, replacement of all seats and seals is recommended. Refer to Service Kit chart.

1. Close the valve.
2. Remove the screws(12) 2 pieces.
3. Then remove the upper stem nut (11), spring-washer (10), handle set (13) and gland nut (9).
4. Unscrew and remove the cap (2) and joint gasket (5). Heat may be required.
5. If the ball (3) and ball seats (4) do not tall from the body with the ball in the fully closed position, use a piece of wood or some other soft material to gently tap the ball (from the end opposite body cap). This will unseat these parts without damaging the ball.
6. Press the stem (6) from the top into the valve body and remove it through the cap end of the body.
7. Using a wire brush, clean the cap thread and body threads to remove any excess thread lock.
8. Using a pointed instrument, pry out and discard the old stem packing (8),thrust washer (7), if applicable. Be very careful not to scratch and sealing surfaces in the valve body (surfaces on which seats and seal rest).



WRENCHING HERE(HEX FLATS WHEN INSTALLING REMOVING PIPE THIS END

WARNING

FOR YOUR SAFETY, IT IS IMPORTANT THAT THE FOLLOWING PRECAUTIONS BE TAKEN PRIOR TO REMOVAL OF THE VALVE FROM THE LINE OR BEFORE ANY DISASSEMBLY..

1. WEAR ANY PROTECTIVE CLOTHING OR EQUIPMENT NORMALLY REQUIRED WHEN WORKING WITH THE FLUID INVOLVED.
2. DEPRESSURIZE THE LINE AND CYCLE THE VALVE AS FOLLOWS:
   - A. PLACE THE VALVE IN THE OPEN POSITION AND DRAIN THE LINE.
   - B. CYCLE THE VALVE TO RELIEVE RESIDUAL PRESSURE IN THE BODY CAVITY BEFORE REMOVAL FROM THE LINE.
   - C. AFTER REMOVAL AND BEFORE ANY DISASSEMBLY, CYCLE THE VALVE AGAIN SEVERAL TIMES.
3. WHEN INSTALLING OR REMOVING PIPING FROM THE VALVE, PLACE A WRENCH ON THE BODY OR THE BODY CAP NEAREST THE END BEING WORKED. MAKE CERTAIN BODY CAP END OF VALVE DOES NOT TURN OUT OF THE VALVE BODY. (BODY/BODY CAP JOINT IS A RIGHT HAND THREAD) NOTE: IF FITTING OF PIPE REMOVAL IS TO BE A REGULAR PRACTICE, LUNG YUN RECOMMENDS USING WELDED END BALL

INSTALLATION

The valve may be installed for flow in either direction. It is recommended, however, that a screwed valve be installed with the body cap facing upstream. Use standard piping practices when installing valves with threaded parts. When tightening the valve to the pipe, apply the wrench to the end nearest the pipe being worked. Adjust packing prior to installation.

MAINTENANCE

Periodically observe the valve to be sure of proper performance.
More frequent observation is recommended under extreme operating conditions.
Routine maintenance consists of tightening the stem nut 1/4 turn periodically to compensate for the wear caused by the stem's turning against the resilient PTFE seal.

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ASTAM VALVE

ASSEMBLY

1. Clamping valve body (1) securely in a vise, drop in one ball seat (4) with the flat surface on the bottom.
2. Insert from the inside a thrust washer (7), into the lower stem bore
3. Insert the stem (6) through the open end of the body (1), being careful not to scratch the stem bearings and thrust washer surfaces. Press it gently up into the stem hole.
4. Holding the stem bearing in place from inside the valve, install one stem packing (8), and thread on one of the gland nut (9).
5. Align the stem blade inside the valve body (1) with the ball (3). Insert the ball (3) and rotate the stem (6) to theball fully closed position.
6. Insert second ball seat (4) into the cap (1) so that the sealing surface of the ball seat is towards the ball. Insert the joint gasket(5).
7. Apply Loctite 272 or equivalent, one bead 360° around the body cap (2) covering a minimum of two threads.
8. Insert the cap (2), screw it down and tighten to the required torque. (See Table 1 for Cap Torque specification).
9. Place the handle set (13) and then tight the screwd(12) to the body
10. Place the spring washer (10) and stem nut (11) over the stem (6). Tighten the stem nut (11) until snug.
11. Cycle the valve slowly twice to ensure permanent position of the ball between the two ball seats.

SERVICE KITS

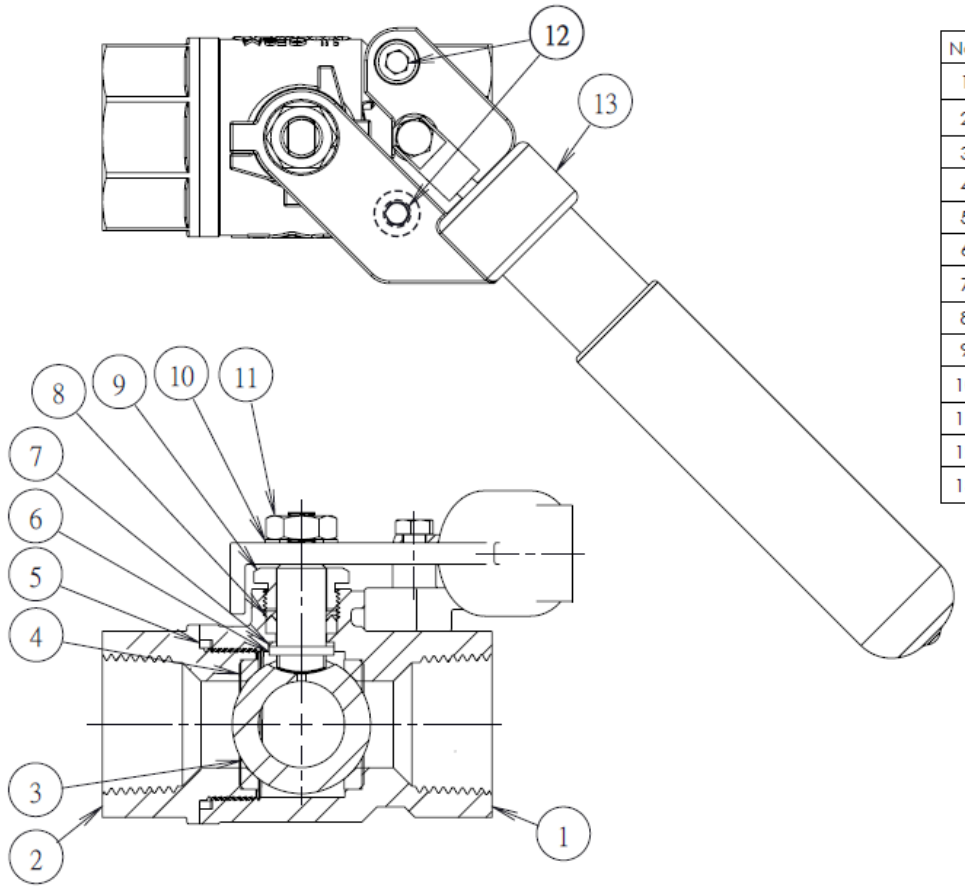
Service kits include two ball seats (5), one stem packing, one thrust washer, and one joint gasket.

Table 1
Body Cap Assembly Torque

Valve Size	BT-2MM	BT-2CM	BT-2GM	BT-2KK
1/4”-1/2”	105 LB-FT	105 LB-FT	150LB-FT	100LB-FT
3/4”	205 LB-FT	205 LB-FT	250 LB-FT	180LB-FT
1”	430 LB-FT	305 LB-FT	500 LB-FT	330 LB-FT
1-1/4”	560 LB-FT	335 LB-FT	650 LB-FT	430 LB-FT
1-1/2”	730 LB-FT	370 LB-FT	850 LB-FT)	560 LB-FT
2”	950 LB-FT	405 LB-FT	850 LB-FT	730 LB-FT

Table 2
Service Kits

Valve Size	BT-2MM	BT-2CM	BT-2GM	BT-2KK
1/4”	HA-2MM03	HA-2CM04	HA-2GM04	HA-2KK04
3/8”	HA-2MM03	HA-2CM04	HA-2GM04	HA-2KK04
1/2”	HA-2MM04	HA-2CM04	HA-2GM04	HA-2KK04
3/4”	HA-2MM06	HA-2CM06	HA-2GM06	HA-2KK06
1”	HA-2MM10	HA-2CM10	HA-2GM10	HA-2KK10
1-1/4”	HA-2MM12	HA-2CM12	HA-2GM12	HA-2KK12
1-1/2”	HA-2MM14	HA-2CM14	HA-2GM14	HA-2KK14
2”	HA-2MM20	HA-2CM20	HA-2GM14	HA-2KK20



No.	PART'S NAME
1	BODY
2	CAP
3	BALL
4	BALL SEAT
5	JOINT GASKET
6	STEM
7	THRUST WASHER
8	STEM PACKING
9	GLAND NUT
10	SPRING WASHER
11	STEM NUT
12	SCREWS
13	HANDLE SET

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ASTAM VALVE

IMO-301

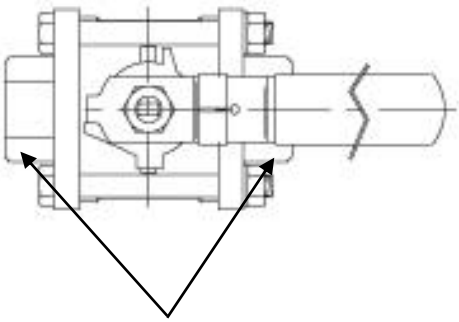
3-PIECE THREADED BALL VALVE

(BT-3AK、BT-3BH、BT-3AH)

DISASSEMBLY

NOTE: If complete disassembly becomes necessary, replacement of all seats and seals is recommended. Refer to Service Kit chart.

1. Close the valve. Then remove the upper stem nut (9), spring-washer (8), handle (14) and gland nut (7).
2. Unscrew and remove the bolt(13) ,bolt nut(12),bolt washer(11),cap (2) and seat (4).
3. If the ball (3),seat gasket(ball seats (4) do not tall from the body with the ball in the fully closed position, use a piece of wood or some other soft material to gently tap the ball (from the end opposite body cap). This will unseat these parts without damaging the ball.
4. Press the stem (10) from the top into the valve body and remove it through the cap end of the body.
5. Using a wire brush, clean the cap thread and body threads to remove any excess thread lock.
6. Using a pointed instrument, pry out and discard the old stem packing (6),thrust washer (5), if applicable. Be very careful not to scratch and sealing surfaces in the valve body (surfaces on which seats and seal rest).



WRENCHING HERE (HEX FLATS)
WHEN INSTALLING REMOVING
PIPE THIS END

WARNING

FOR YOUR SAFETY, IT IS IMPORTANT THAT THE FOLLOWING PRECAUTIONS BE TAKEN PRIOR TO REMOVAL OF THE VALVE FROM THE LINE OR BEFORE ANY DISASSEMBLY.

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2. DEPRESSURIZE THE LINE AND CYCLE THE VALVE AS FOLLOWS:
   - A. PLACE THE VALVE IN THE OPEN POSITION AND DRAIN THE LINE.
   - B. CYCLE THE VALVE TO RELIEVE RESIDUAL PRESSURE IN THE BODY CAVITY BEFORE REMOVAL FROM THE LINE.
   - C. AFTER REMOVAL AND BEFORE ANY DISASSEMBLY, CYCLE THE VALVE AGAIN SEVERAL TIMES.
3. WHEN INSTALLING OR REMOVING PIPING FROM THE VALVE, PLACE A WRENCH ON THE BODY OR THE BODY CAP NEAREST THE END BEING WORKED. MAKE CERTAIN BODY CAP END OF VALVE DOES NOT TURN OUT OF THE VALVE BODY. (BODY/BODY CAP JOINT IS A RIGHT HAND THREAD) NOTE: IF FITTING OF PIPE REMOVAL IS TO BE A REGULAR PRACTICE, LUNG YUN RECOMMENDS USING WELDED END BALL

INSTALLATION

The valve may be installed for flow in either direction. It is recommended, however, that a screwed valve be installed with the body cap facing upstream. Use standard piping practices when installing valves with threaded parts. When tightening the valve to the pipe, apply the wrench to the end nearest the pipe being worked. Adjust packing prior to installation.

MAINTENANCE

Periodically observe the valve to be sure of proper performance.
More frequent observation is recommended under extreme operating conditions.
Routine maintenance consists of tightening the stem nut 1/4 turn periodically to compensate for the wear caused by the stem's turning against the resilient PTFE seal.

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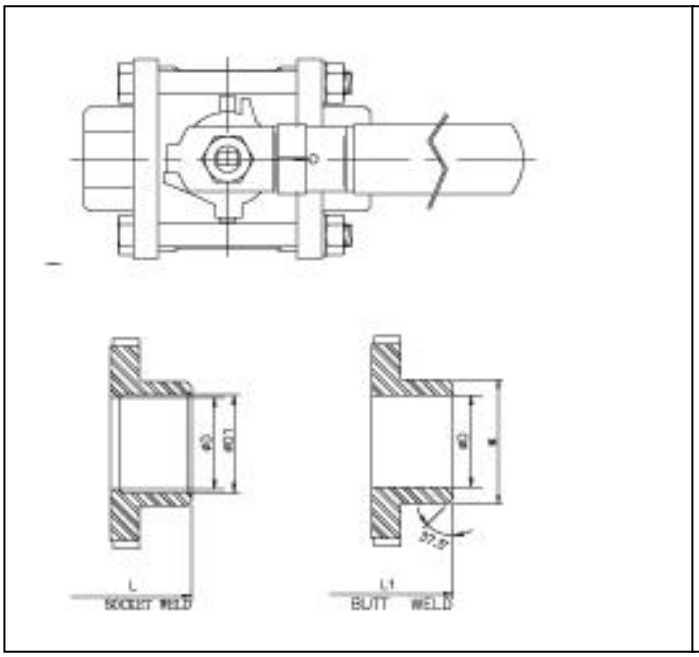
ASSEMBLY

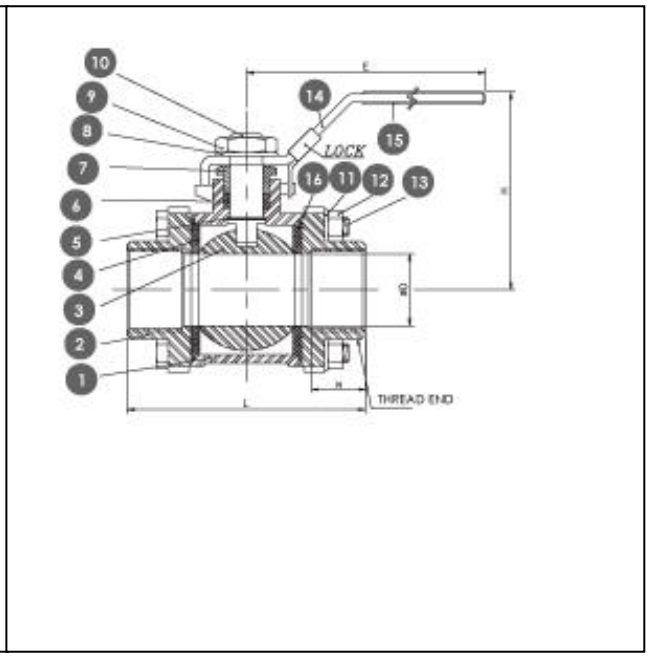
1. Clamping valve body (1) securely in a vise, drop in one Seat gasket(16) and ball seat (4) with the flat surface on one the bottom.
2. Insert from the inside a thrust washer (5), into the lower stem bore
3. Insert the stem (10) through the open end of the body (1), being careful not to scratch the stem bearings and thrust washer surfaces. Press it gently up into the stem hole.
4. Holding the stem bearing in place from inside the valve, install one stem packing (6), and thread on one of the gland nut (7).
5. Align the stem blade inside the valve body (1) with the ball (3). Insert the ball (3) and rotate the stem (10) to the ball fully closed position.
6. Insert second ball seat (4) into the cap (1) so that the sealing surface of the ball seat is towards the ball. Insert the seat gasket(16).
7. Insert the cap (2), bolt(13),bolt washer(11),screw the nut(9) and tighten.
8. Place the handle (14), spring washer (8) and stem nut (9) over the stem (4). Tighten the stem nut (11) until snug.
9. Cycle the valve slowly twice to ensure permanent position of the ball between the two ball seats.

SERVICE KITS

Service kits include two ball seats (4), stem packing(6), thrust washer(5), and seat gasket(16)

Table 1			
Service Kits			
Valve Size	BT-3AK	BT-3AH	BT-3BH
1/4”	HA-3AK02	HA-3AH02	HA-3BH02
3/8”	HA-3AK03	HA-3AH03	HA-3BH03
1/2”	HA-3AK04	HA-3AH04	HA-3BH04
3/4”	HA-3AK06	HA-3AH06	HA-3BH06
1”	HA-3AK10	HA-3AH10	HA-3BH10
1-1/4”	HA-3AK12	HA-3AH12	HA-3BH12
1-1/2”	HA-3AK14	HA-3AH14	HA-3BH14
2”	HA-3AK20	HA-3AH20	HA-3BH20





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