Instruction manual

Ball valve AT 3533S & 3534S

General

The valve has been designed and manufactured for use in systems where the operating conditions are suitable for the equipment in accordance with applicable standards. The user is responsible for selecting the materials and design appropriate to the operating conditions. The valve may be used in accordance with AFS 2016:1 under category III, fluid groups 1 and 2. Sizes up to DN 25 comply with §8 of PED, AFS 2016:1.

Marking

The valves are marked with the type number, DN, PN and manufacturer, as well as the CE marking.

Risks during use

When operating a lever-operated valve, hold the protective grip on the lever to avoid pinch injuries between the lever and the valve. Fluid group 1 The valve has an adjustable packing gland. The user and/or purchaser is responsible for checking for any leakage. Warning! When using fluids that may harm human health, the environment or property, the necessary preventive safety measures must be taken!

Inspection on arrival

Check that the valve matches the order and is free from damage. Check that the goods match the order and are free from damage. Any damage must be reported and notified to the carrier immediately.

Handling

Store the valve in a suitable location to prevent corrosion and contamination. Any protective covers supplied must remain in place. Do not lift the valve by the lever or actuator. Consider the size and weight of the valve during handling to prevent personal injury.

Installation

Before installation, check that the valve is suitable for the system design data and operating conditions. Ensure that the pipeline is free from contaminants, mill scale and anything else that could impair valve operation. Pressure relief or other measures should be provided if fluid may become trapped between two valves, as expansion may, in certain cases, damage the valves. Any leakage from a valve containing flammable fluid may increase the fire risk. Valves containing flammable fluid must therefore not be installed near electrical components or hot objects. Lever-operated valves are supplied in the open position to protect the ball and seat rings; however, this may differ when, for example, an actuator is fitted to the valve. The valves may be installed in any orientation. Mating flanges and pipe ends must be parallel and aligned with each other. The distance between flanges and pipe ends must be sufficient to allow the valve and gaskets to be installed without subjecting the valve to external tensile or compressive forces. The protective plugs must be removed before installation, and the flange and welding surfaces should be wiped clean.

Installation with female threads
1. Check that the threads are of the same type as those on the pipe.
2. Apply a sealing method suitable for the application (thread seal tape, adhesive, hemp) to the valve threads.
3. Hold the valve end piece with an open-ended spanner and the pipe with a pipe wrench.
4. Check that there is no leakage.

Installation with welding ends

1. Loosen the bolts and remove the end pieces/end caps.
2. Weld the end pieces to the pipe, ensuring that the two end pieces are concentric and parallel.
3. Once the end pieces have cooled, install the valve body and tighten the bolts symmetrically.
4. Check that there is no leakage.

Welding instructions

Welding process:	TIG
Joint preparation and cleaning method:	Grinding
Joint type:	V-joint
Shielding gas:	Argon or Mison
Gas flow rate:	8-10l/min indoors
Filler material:	316L ESAB or equivalent
Pipe material:	SS 2333, 2343, 2348
Preheating:	Not required
Post-weld heat treatment:	Not required

Commissioning

Always start the system with the valve closed. During start-up, flush the piping system with the valve fully open. Do not use any operating devices other than those supplied. The valve is open when the hand lever is in line with the pipeline. Ensure that any liquids used for cleaning before start-up do not damage the valve.

Operation and maintenance

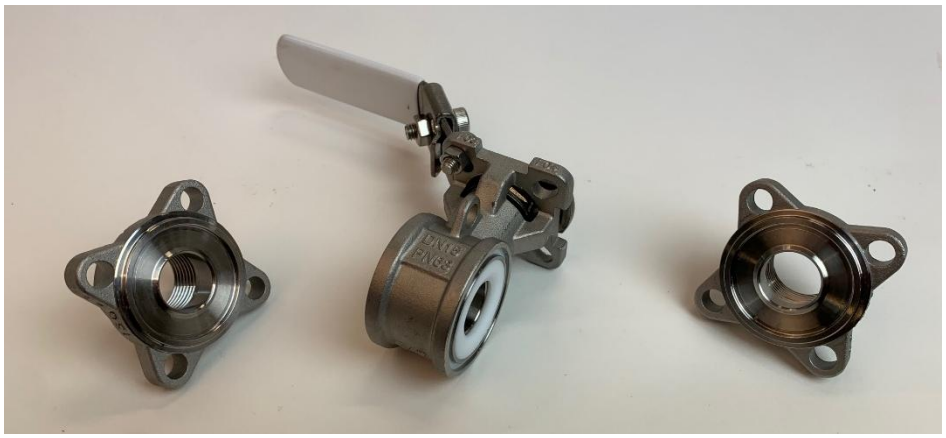
During operation, the ball valve must be either fully open or fully closed. Intermediate positions may damage the seat rings. Any pressure surges must not exceed the valve pressure rating. If pressure surges are anticipated, protective measures must be taken. The three-piece construction of the ball valve allows easy servicing and maintenance, as well as easy replacement of all parts. Exercise the valve at least every 6 months and document this in maintenance records, e.g. in an ongoing maintenance system. During the first exercise after installation, the packing gland must also, where applicable, be retightened. When ordering spare parts, specify the item number from the parts list and any non-standard configuration.

Functional checks and corrective action

Before dismantling the product or carrying out repair or maintenance work, the entire product must be depressurised and allowed to cool. When hazardous media are present, draining and venting must be carried out.

Replacing seats and valve body gaskets.

1. Ensure that the valve body is depressurised and is not at a high temperature.
2. Set the valve to the open position.
3. Loosen the bolts, then remove the valve body.



4. Remove the valve body gaskets and seat rings.





5. Refit the valve body gaskets and seat rings. NOTE! The seat rings are not symmetrical and must be installed the correct way round. This may be difficult to see, particularly on smaller sizes, but a clear indication of correct installation is that they sit completely flush with the valve body.

Leakage from the stem packing.

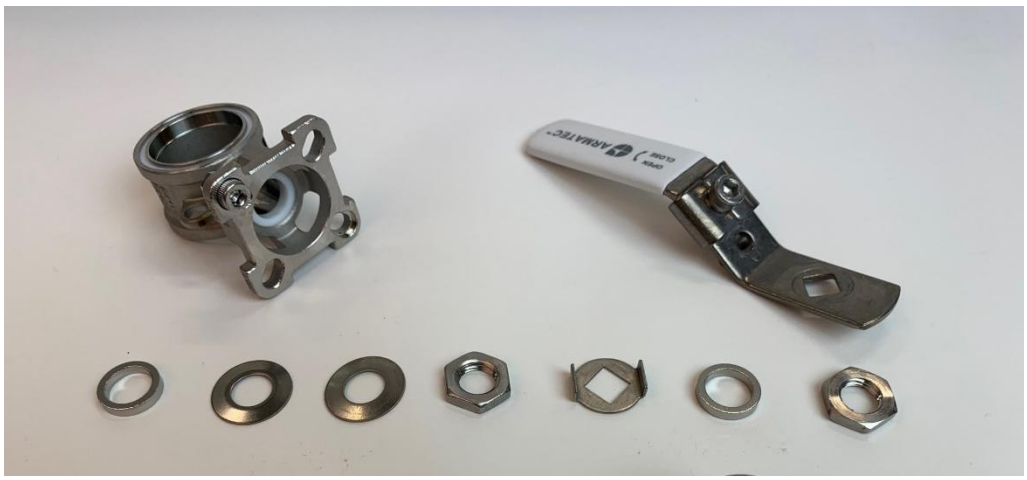
If leakage occurs through the stem packing, retighten the packing gland nut. Repeat until the leakage stops. If this does not remedy the fault, the stem packing must be replaced.

Replacing the stem packing

1. Follow the instructions above for removing the valve body. The following work should be carried out on a workbench.
2. When removing the components below, take care to arrange them in the correct order to facilitate reassembly!
3. Remove the nut (11-2) and lever (13), then remove the support ring (10-2) and lock washer (22)



4. Remove the nut (11-1), spring washers (17-2 & 17-1) and support ring (10-1)

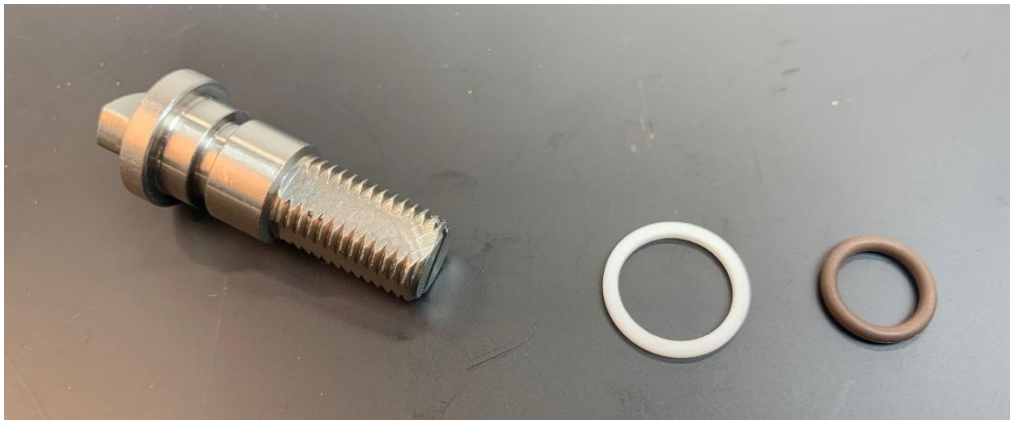


5. Remove the two sealing rings (8). NOTE! These are not symmetrical and must be refitted exactly as they were positioned before removal. The raised section must fit into the recess in the opposite seal. However, the direction in which the pair is fitted on the stem does not matter.
6. Turn the ball to the closed position and remove it.
7. Carefully work the stem out of the valve body.

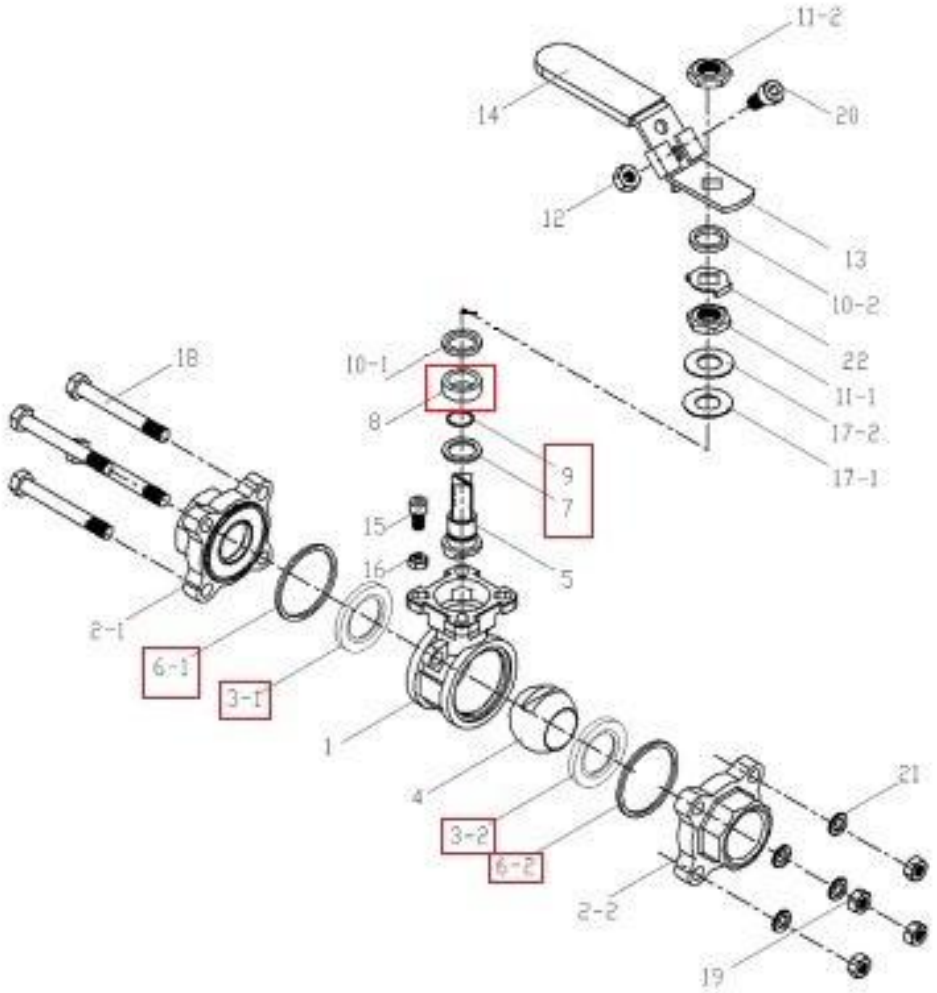




8. Remove the O-ring (9) and sealing washer (7) from the stem.



9. Fit a new O-ring (9) and sealing washer (7) to the stem, then follow the instructions above in reverse order.



Parts circled in red are included in the spare parts kit and are the parts replaced during maintenance.

FAQ/Troubleshooting

Hör gärna av dig

Vi svarar på dina frågor via e-post och telefon. Inga frågor är för små, inga utmaningar är för stora. Du är alltid välkommen hos Armatec.

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FÖRETAGETS
LEDNINGSSYSTEM ÄR
CERTIFIERAT AV DNV
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