These operating instructions must always be used in combination with operating instructions BA01E001!

Drawings which are also applicable

Hydraulic scheme
Control

1 Safety aspects (pay particular attention to the following notes!)

The main Ball Valve may only be operated with the inspection seal in open position (normal position). This position is monitored by means of a limit switch. A warning lamp has to be installed locally and in the control room.

Attention: The leakage connection or the leakage line “into free atmosphere“ at the 4-way ball valve must not be isolated or closed.

The inspection seal may only be operated when the main Ball Valve is closed and locked. The 4-way ball valve has to be locked immediately after each operation (see paragraph 4).

Removing the operating gear is not allowed!
2 Description of Product and Performance

ERHARD Ball Valves with inspection seal, indicator of inspection position and manual control.

By means of the inspection seal, the pipeline can be isolated on the upstream side. After the interior of the body on the downstream side has been relieved, the service seal can be made accessible, e.g. for repair.

3 Design Features

When the Ball Valve is in closed position, a hollow piston is moved to the inspection ball sealing ring by means of the operating water. The hollow piston is controlled by means of a manually operated lockable 4-way ball valve. Even if the supply line bursts, the hollow piston will remain in its position. The open position of the inspection seal (normal position) is signalled by a limit switch.

4 Performance and Mode of Operation

Mode of Operation of Inspection seal

In case of inspection, close main Ball Valve and, if necessary, bypass valve and lock operating gears. One has to make sure that it is impossible to operate the valve even in case of an error in handling, e.g. by lockable reversing valve for interrupting the external hydraulic oil supply, by lockable safety switch for interrupting the motor circuit.

- Switch 4-way ball valve (2) over to “inspection position” and lock it. Inspection seal closes by working pressure.

- Open screw plug at top of body partially and check if inspection seal closes tightly. When there is no penetration of water, the inspection seal is tight. The interior of the body is to be drained by means of the drain ball valve (9) at the bottom of the Ball Valve.

- Now, the necessary maintenance at the service seal can be done according to separate operating instructions.

- After having finished maintenance at the main ball valve, completely open vent plug at the upper side of the body, fill main ball valve through the filling ball valve (8) (the filling pipe has to be provided and mounted by the user). In case of water leakage at the air outlet orifice close filling ball valve (8) and vent plug. Open filling ball valve (8) again, so that the pressure will be equilibrated. Close filling ball valve again. Switch 4-way ball valve (2) to “normal position” and lock it.
• Only after the inspection seal is completely open and the lock of the operating gear has been released, it is allowed to operate the main Ball Valve.

• The indicator of the repair position is set in such a way that the limit switch trips only when the inspection seal is completely open.

5 Installation into the Pipeline – Mounting

Prior to installation of the Ball Valve into the pipeline, check whether the inspection seal is in full open position. If there has been a change due to transport, the hollow piston has to be moved back to full open position which can be done manually or by blowing in compressed air.

The customer has to install a leakage line "into free atmosphere" at the leakage connection of the 4-way ball valve. Here it is possible that a small amount of leakage water penetrates through the piston seal even while the inspection seal is out of service.

6 Initial Operation

Air has to be evacuated from the supply line.

7 Maintenance

We recommend to operate the inspection seal at least once a year. After each operation of the inspection seal, the dirt trap has to be cleaned with the main Ball Valve in closed position. For this purpose, close the ball valve (4) upstream of the supply line. After cleaning it is absolutely necessary to open the ball valve again and to lock it.