Fig. Fig. KBG20 Bronze Gate Valve
Installation & Maintenance Instructions

PRODUCT LIFE CYCLE

The life of the valve is dependent on its application, frequency of use and freedom from misuse.

The properties of the fluid being transported such as pressure and temperature must be taken into account to avoid premature failure.

Other factors to be considered are the electrolytic interaction between dissimilar metal used in the system, dezincification and stress corrosion cracking occurring on chilled water service.

Before commissioning a system, it should be flushed to eliminate debris and chemically cleaned as appropriate to eliminate contamination, all of which will prolong the life of the valve.

OPERATING PRESSURES AND TEMPERATURES

Maximum non shock pressure and temperature range:

20 bar from -10˚C to 100˚C

9 bar at 180˚C

Water hammer and other shock conditions should be avoided.

Not suitable for fatigue loading, creep conditions, fire testing, fire hazard environment, corrosive service or transporting abrasive solids.

PRESSURE / TEMPERATURE RATING

These valves must be installed in a piping system where the normal pressure and temperature do not exceed the above ratings.

If system testing will subject the valve to pressures in excess of the working pressure rating, this should be within the test pressure for the body with the valve in the open position.

If the limits of use specified in these instructions are exceeded or if the valve is used on applications for which it was not designed, a potential hazard could result.

LAYOUT AND SITING

It should be considered at the design stage where valves will be located to give access for operation, adjustment, maintenance and repair.

The preferred installation orientation is;

- Horizontal pipework with stem vertical.
- Vertical pipework with stem horizontal.

INSTALLATION

Prior to installation, a check of the identification plate and body marking must be made to ensure that the correct valve is being installed.

Valves are precision manufactured items and as such, should not be subjected to misuse such as careless handling, allowing dirt to enter the valve through the end ports and excessive force during handwheel operation.

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All special packaging material must be removed.

Confirm that the pipe threading length is correct to avoid excessive penetration of the pipe into the valve which would otherwise cause damage.

It is common practice to apply thread sealing compounds appropriate to the application but excessive use should be avoided, since this increases thread interference and may cause overstressing of the body ends.

Ensure the threads are properly engaged and proceed to tighten the valve onto the pipe. The wrench must only be located on the valve end into which the pipe is being threaded to avoid distortion of the valve.

Valves and adjoining pipework must be provided with adequate support to avoid inducing bending stresses into the valve body, which will impair its performance.

Immediately prior to valve installation, the pipework to which the valve is to be fastened should be checked for cleanliness and freedom from debris.

After installation, the valve may be opened and closed fully to confirm satisfactory operation.

It is recommended that valves installed on end of line service and unused for prolonged periods should be fitted with a blank plug.

OPERATION

Open the valve by rotating the handwheel anticlockwise until a positive stop is felt. When fully open it is recommended to close the valve by ½ a turn.

Close the valves by rotating the handwheel clockwise until a positive stop is felt.

Wheel keys or similar devices should not be used.

The operator should use suitable hand protection at extreme temperature conditions.

Gate valves should only be used in the full open or closed position.

MAINTENANCE

The valve should be at zero pressure and ambient temperature prior to any maintenance.

Maintenance Engineers & Operators are reminded to use correct fitting tools and equipment.

A full risk assessment and method statement must be compiled prior to any maintenance.

The valve should be included in a planned maintenance programme to identity any leakage at an early stage and rectified before it becomes serious

These gate valves should not normally require any maintenance, however, in the event of maintenance being necessary, the following procedure should be followed:

Gland Packing

Slacken the handwheel nut and remove the handwheel and nameplate.

Remove the gland nut and gland.

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Partially repack or fully replace the existing packing depending upon the amount of packing in the stuffing box or severity of the leakage.

Using a sharp pointed tool, lift out the existing packing and ensure the stem and stuffing box are clean & free from debris. Take care not to damage the stem or stuffing box.

Fit appropriate packing into the stuffing box and press down firmly.

Re-fit the gland, gland nut, handwheel and nameplate and confirm stem resistance while operating the valve.

When the valve is re-pressurized check for leak tightness and further adjust the gland as necessary.

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