Engineering Data Sheet

Installation, Operation & Maintenance Instructions for Fig 81HU Bronze Gland Cocks

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CE MARKING AND THE PRESSURE EQUIPMENT DIRECTIVE 97/23/EC

This has been implemented in United Kingdom law by the Pressure Equipment Regulations 1999 (SI 1999/2001).

The regulations apply to all valves with a maximum allowable pressure greater than 0.5 bar. Valves with a maximum allowable pressure not exceeding 0.5 bar are outside the scope of the Directive. Valves are categorised in accordance with the maximum working pressure, size and ascending level of hazard, which is dependent on the fluid being transported. Fluids are classified as Group 1, dangerous fluids or Group 2, all other fluids including steam. Categories are SEP (sound engineering practice) and for ascending levels of hazard, I, II, III or IV. All valves designated as SEP do not bear the CE mark nor require a Declaration of Conformity. Categories I, II, III or IV carry the CE mark and require a Declaration of Conformity (Note- all valves up to and including 25mm (1") having a maximum allowable pressure greater than 0.5 bar are designated SEP regardless of fluid group.)

PRODUCT LIFE CYCLE

The life of the valve is dependent on its application, frequency of use and freedom from misuse. The system into which it is installed must also be compatible with respect to the fluid being transported with reference to its temperature, pressure and other properties, which may cause premature failure or non-operability. A well-designed system will take into consideration all the factors considered in the valve design, but additionally electrolytic interaction between dissimilar metals in the valve and the system must be examined. 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.

LIMITS OF USE

The valve to which these installation, operation and maintenance instructions apply have been categorised in accordance with the Pressure Equipment Directive.

The fluid to be transported is limited to Group 2 liquids i.e. non-hazardous and on no account must these valves be used on any Group 2 gases, Group 1 liquids or Group 1 Gases.

Fig 81HU PN10 pressure rating is categorised as SEP and does not require the CE mark.

Operating pressures and temperatures

PN	Non-shock pressure at temperature range	Non-shock pressure at max. temperature
10	10 bar from –10°C to 120°C	10 bar at 120 °C

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

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PRESSURE/TEMPERATURE RATING

Valves must be installed in a piping system whose normal pressure and temperature do not exceed these 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 open.

The maximum allowable pressure in valves as specified in the standards is for non-shock conditions. Water hammer and impact for example, should be avoided.

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 Fig 81HU may be installed in any orientation but attention should be paid to surrounding structures, ensuring that the hose union connection may be easily accomplished and that the valve lever movement is not impaired.

This valve is designed for end-of-line service for the purpose of system draining. The Blanking Cap supplied with the valve provides a secondary seal and must be fitted to the downstream connection, to prevent the possibility of any leakage.

INSTALLATION

General

Prior to installation, a check of the identification plate and / or 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, lack of cleaning both valve and system before operation and excessive force fitting and lever operation.

All special packaging material must be removed.

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

Sealing compounds may be used but excessive use of hemp type materials should be avoided which increases the thread interference and may cause overstressing.

The wrench must only be located on the valve end into which the pipe is being threaded to avoid distortion of the valve.

To prevent seizure of the plug the valve is dispatched with gland set screws hand tightened plus a quarter turn. After installation, the gland set screws should be checked for tightness and the valve opened and closed fully to confirm satisfactory operation. The gland should be tightened until a resistance is felt in the operating force of the valve.

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During system pressure testing the gland should be checked for possible leakage and tightened as required.

Fig 81HU

Remove hose union nut and tailpipe taking care not to lose the tail pipe seal.

The valve ends are threaded parallel therefore the valve must be fully tightened up to the body shoulder. Sealing compounds appropriate to the application may be used and a sealing washer on the body shoulder will provide additional security.

At this stage the union nut and tail pipe may be kept in a separate location to the valve or fitted to the valve to avoid possible loss. Remove the end cap from the valve and fit the union nut and tail pipe. The end cap will be retained on the valve by the strap (or chain) for fitting when the system is filled. Once filled the cap should remain on the valve until the system needs to be drained.

OPERATING

The blanking cap must be fitted to the valve at all times for added security.

Remove the captive cap, fit the hose union to the hosepipe and fit the hose union nut to the valve outlet and tighten.

Open the valve by a 90° anti-clockwise movement of the lever (not supplied) or a suitable fitting spanner until it is in line with the outlet.

Close the valve by a 90° clockwise movement of the lever until the lever (not supplied) or a suitable fitting spanner until it is in line with the outlet.

Disconnect the hose union nut and remove the hosepipe. Depending on the orientation of the valve in the pipeline, a small loss of fluid may be expected when the hose is disconnected.

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 methodology statement must be compiled prior to any maintenance.

The risk assessment must take into account the possibility of the limits of use being exceeded whereby a potential hazard could result.

A maintenance programme should therefore include checks on the development of unforeseen conditions, which could lead to failure.

These gland cocks should not normally require any maintenance, however, in the event of maintenance being necessary the following procedure should be followed.

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Gland Packing

If leakage at the gland is detected the gland bolts should be evenly tightened until this stops. Some increase in operating effort may result which if too excessive may require the gland packing to be changed.

To change the gland packing, firstly de-pressurize the system.

Remove the lever and slacken and remove the two gland bolts and gland.

Using a sharp instrument, lift out the gland-packing washer. Ensure the valve stem and body recess is clean and free from debris.

Fit new genuine Hattersley packing and re-fit the gland, bolts and lever. Evenly tighten the bolts and confirm the valve is free to operate.

Re-pressurize the system and check the gland is leaktight.

For the supply of genuine Hattersley spares or technical assistance contact:

Hattersley Newman Hender
Allied Business Centre, 1 Potter Place, West Pimbo, Skelmersdale, Lancashire. WN8 9PW

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