



# Fig.100YL Series Copper Alloy Ball Valves

## OPERATING PRESSURES AND TEMPERATURES

VALVE SIZE	PN	NON SHOCK PRESSURE AT TEMPERATURE RANGE	NON SHOCK PRESSURE AT MAX. TEMPERATURE
15-54mm	16 Compression	MOP 5 bar -10°C to 60°C (Gas)	5 bar at 60°C
15-54mm	16 Compression	16 Bar -10°C to 30°C (non Gas)	6 bar at 110°C
1/4" - 2"	25 Threaded	MOP 5 bar -10°C to 60°C (Gas)	5 bar at 60°C
1/4" - 2"	25 Threaded	25 bar -10°C to 100°C (non Gas)	23.5 bar at 110°C

Note: MOP - Maximum Operating Pressure

## PRESSURE / TEMPERATURE RATING

These valves are suitable for PN16 compression and PN25 threaded pressure ratings. They 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.

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.

Valves must be provided with adequate support. Adjoining pipework must be supported to avoid the imposition of pipeline strains on the valve body, which would impair its performance.

The Fig 100YL & 100CYL Series are bi-directional valves and can be installed in any flow direction.

Care is needed during installation to provide sufficient room to enable the valve to be operated

## 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, lack of cleaning both valve and system before operation and excessive force during lever operation.

All special packaging material must be removed.

Valves must be provided with adequate support. Adjoining pipework must be supported to avoid the imposition of pipeline strains on the valve body, which would impair its performance.

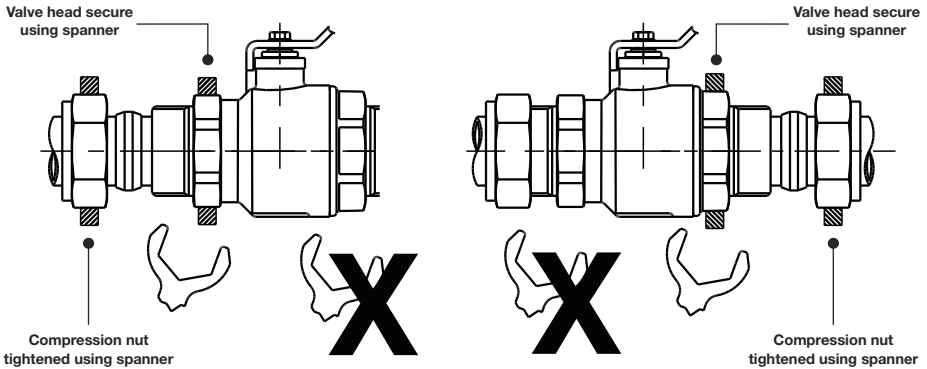
Immediately prior to valve installation, the pipework to which the valve is to be fastened should be checked for cleanliness and freedom from debris.

# COMPRESSION END VALVES

## Copper Pipe

These valves are fitted with compression ends to BS EN 1254-2 (formerly BS 864 Part 2), which are suitable for installation into copper pipework to BS EN 1057: R250 (half hard) and are provided with olives and compression nuts.

When installing a valve with compression ends to copper tube;



- Always use a correctly sized spanner or wrench on the flats provided.
- Do not grip around the valve body joint.
- Never drive torque through the main body joint during assembly.

Compression nuts must be hand tightened and then further tightened as per the following recommendation:

	15mm	22mm	28mm	35mm	42mm	54mm
<b>FURTHER TIGHTENING</b>	<b>BETWEEN <math>\frac{3}{4}</math> AND <math>1\frac{1}{4}</math> TURNS</b>					

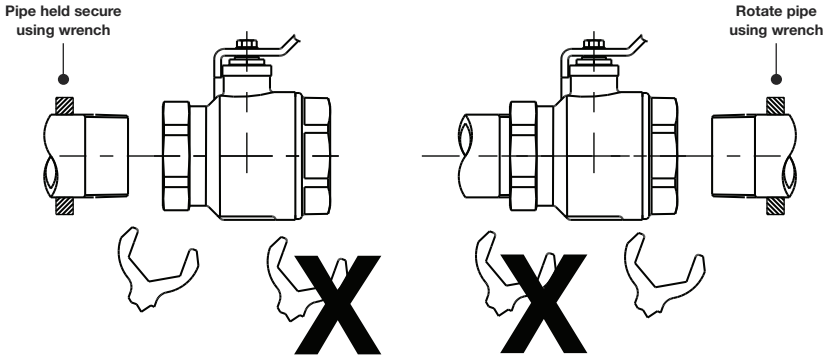
## OPERATION

- Ball valves have a quarter turn operation (clockwise to close) providing quick and positive isolation./
- To close the valve, the lever is rotated clockwise to a positive stop.
- To open the valve, the handle or key is rotated anti-clockwise to a positive stop.

**Notes:** The operator should use suitable hand protection at extreme temperature conditions. Rapid closure of a quarter turn valve on liquid services may cause system water hammer. Ball valves have PTFE body seats and should only be used in the full open or closed positions.

## THREADED END VALVES

When installing a valve with threaded ends to steel pipe;



- Always use the flats on the hexagon at the end being fitted to the pipe.
- Always use a correctly sized spanner or wrench on the flats provided.
- Do not grip around the valve body joint.
- Never drive torque through the main body joint during assembly.

VALVE SIZE	TURNS	VALVE SIZE	TURNS	VALVE SIZE	TURNS
1/4 - 1 1/2"	1.5	2"	2	2 1/2" - 4"	2.5

## ALTERNATIVE PIPEWORK SYSTEMS

When used with alternative pipework systems, a suitable BSP threaded adaptor must be used.

## MAINTENANCE

- The Hattersley Ball valve is maintenance free and will have a long service life.
- The valve should be at zero pressure and ambient temperature prior to any inspection.
- 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.

For the supply of genuine **Hattersley spares** or **technical assistance** please use the contact details on the back of this document:

## 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. Compatibility with the system into which it is installed must be considered. The properties of the fluid being transported such as pressure, temperature and the nature of the fluid must be taken into account to minimise or avoid 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 valves to which these installation, operation and maintenance instructions apply have been categorised in accordance with the Pressure Equipment Directive.

**These valves are suitable for use with Group 1 gases, ie. Hazardous and may also be used on Group 1 liquids, Group 2 gases and Group 2 liquids**

The Fig 100YL and Fig 100CYL are tested and certified by Advantica to EN 331

FLUID	GROUP 2 GASES			
FIG NO.	ENDS	PN	SIZE	CATEGORY
100CYL	Compression	16	15 - 28mm	SEP
100CYL	Compression	16	35 - 54mm	1*
100YL	Threaded	25	1/2" - 1"	SEP
100YL	Threaded	25	1 1/4" - 1 1/2"	1*
100YL	Threaded	25	2"	2*

\* Category 1 & 2 requires CE mark



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The Company reserve the right to amend any product without notice.

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