

Section 3. CONSTRUCTION AND MATERIALS

- 3.1. British Standard B.S.448 shall apply to all CV valves as far as it is applicable, but where any B.S. 448 requirement is not in accord with the corresponding requirement of K1001 the latter shall apply.
- 3.2. The manufacturer may use any form of construction for his valve, which, however, shall be subject to the approval of the Approving Authority (See Section 15, Qualification Approval).
- 3.3. Where materials, methods, or processes are required by this specification to be "approved" such approval must be obtained in writing from the Approval Authority.
- 3.4. The workmanship shall be of a high standard throughout and all materials used shall be of good quality and free from defects liable to affect adversely the operation or life of the valve.
- 3.5. External metal parts, including cans and shells, shall be of approved materials and finish preferably in accordance with Parts VI and VII of Specification DEF 5000. Sprayed metal coating shall be of silver, tin, or other approved material. Electro-tinning shall not be used for flexible leads which are required to be tinned for soldering into circuits.
- 3.6. Radioactive valves are defined in Section 19 and are discussed in T.V.C. Information Sheet No. 11, (See also Appendix XVI).
- 3.7. Valves shall be constructed to withstand service requirements as regards vibration, shock and climatic conditions. Tests covering these requirements are given in subsequent sections of this specification.
- 3.8. When operation at high radio frequencies is of importance the Test Specification will state the highest frequency at which the valve shall operate, together with the corresponding ratings, or will describe the special conditions under which the valve will be used.
- 3.9. In any case of disagreement arising due to differences between gauges the article shall be accepted if it passes any gauge which is made within the tolerances defined in the original system of measures, the gauging procedure being carried out at $20^{\circ} \pm 5^{\circ}\text{C}$ and at a maximum relative humidity of 75%.
- 3.10. Tolerances on Dimensions. The dimensions shewn on the drawings herein, in B.S.448 and in CV Valve Test Specifications normally include tolerances. Where no limits are specified the following tolerances shall apply for all materials except glass:-

(a) Machined Metal Parts

Up to 1 inch	\pm 0.005 inch
1 inch to 3 inches	\pm 0.010 inch
3 inches to 12 inches	\pm 0.015 inch

(b) Castings

- (i) Machined parts and dimensions between machined surfaces ± 0.01 inch
- (ii) Unmachined parts
Thickness $\pm 1/64$ inch
- Linear dimensions
Up to 6 inches $\pm 1/32$ inch
Above 6 inches $\pm 1/16$ inch
- (iii) Die Castings ± 0.005 inch

(c) Hole Spacings

On true geometrical position ± 0.005 inch

(d) Framework made of Metal Angles, Tees, etc.

Up to 1 foot ± 0.03 inch
1 to 2 feet ± 0.05 inch

(e) Mouldings

- (i) Taper on vertical surfaces
- Up to 2 inches ± 0.015 inch per inch max.
2 to 3 inches ± 0.01 inch per inch max.

On double vertical surfaces such as walls, fins or similar projections, the total taper shall be as above, viz. up to 2 inches the taper on each side of the centre line shall not exceed 0.0075 inch per inch and from 2 to 3 inches it shall not exceed 0.005 inch per inch. These tolerances shall not be additional to any taper included in the design.

- (ii) Linear Dimensions ± 0.003 inch

When linear dimensions are affected by taper the tolerances on the base shall be $+ 0.005$ inch and the $- 0.000$

remainder shall be governed by the taper (i) above.

- (iii) Inserts, Geometrical position of ± 0.003 inch