

NOTE – Piping in all systems including piping in wet pipe systems should be arranged to drain to the installation drain valve which should be not less than 50 mm in diameter for ordinary and high hazard systems and not less than 40 mm in diameter for light hazard systems.

### **8.12 Low level drainage**

In basements and other areas where sprinkler piping is below the installation drain valves and in other trapped sections in the system, auxiliary drain valves of the following minimum sizes shall be provided:

- |    |                                      |   |       |
|----|--------------------------------------|---|-------|
| a) | For pipes up to 50 mm diameter       | – | 20 mm |
| b) | For 65 mm diameter pipes             | – | 25 mm |
| c) | For pipes larger than 65 mm diameter | – | 32 mm |

### **8.13 Pipe sizes**

Pipe sizes shall be determined either by full hydraulic (see clause 13), or partly by pre-calculated pipe size tables and partly by hydraulic calculations in accordance with the requirements for the class of hazard (see 10.4.2, 11.4.2 and 12.4.2).

### **8.14 Orifice plates**

Orifice plates fitted to assist in hydraulically balancing a high hazard class system or to meet pump characteristic curves shall have an orifice diameter of not less than 50 percent of the diameter of the pipe into which the plate is to be fitted and shall comply with the requirements of Annex A. Such orifice plates shall be permitted only in pipes 50 mm diameter or larger.

The relationship between the size of the orifice, the flow and pressure loss, shall be calculated in accordance with Annex A.

### **8.15 Support of sprinkler piping**

#### **8.15.1 General**

When a pipe support system is being designed for an automatic fire sprinkler system, consideration shall be given to the correct location of pipe supports and to:

- a) the stresses and loads which may be imposed on the support system from all external causes including differential movement of the building structure and all internal causes including pressure reactions;
- b) the transmission of vibration from the building to the piping and from the piping to the building;
- c) the effect a corrosive atmosphere may have on the materials used (see also 8.5); and
- d) the isolation of the pipe from the support when unlike materials are used.

#### **8.15.2 Design**

The piping associated with automatic fire sprinkler systems shall be adequately supported by either:

- a) a pipe support system, the individual components of which comply with the requirements of 8.15; or
- b) pipe supports and fasteners which are designed to support two times the mass of the piping filled with water plus a load of 115 kg at each point of support.