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LICENSING AND CERTIFICATION COMMAND

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致：消防處通函收件人

執事先生：

**消防處通函第 3/2006 號**
**自動花灑裝置的規格**

本通函旨在公布，本處會採用由英國防損委員會編訂並包含 BS EN12845 的自動花灑裝置規定，以及因應本地情況對有關規定所作出的改動。

本處最初是透過消防處通函第 2/1994 號，公布在香港採用英國防損委員會的自動花灑裝置規定，以及因應本地情況所作出的有關改動。二零零三年八月，英國標準協會發出 BS EN12845:2003，並聲明將取代於二零零六年七月撤銷的 BS 5306-2:1990。同年，英國防損委員會出版了包含 BS EN12845 的自動花灑裝置規定。由本處人員擔任主席的消防安全標準諮詢小組爲此成立一個工作小組，研究在本地應用這些新規定的可行性，以及實行上的問題。工作小組與建造業人士及相關團體討論及作出廣泛諮詢後，現已完成有關工作。小組建議採用由英國防損委員會編訂並包含 BS EN12845 的自動花灑裝置規定，但以不違反本函夾附的「表一至表三」所載的改動爲原則，作爲《最低限度之消防裝置及設備守則》所指的花灑裝置的標準。本函旨在公布本處已採納這些建議。

新標準將適用於所有初次向本處遞交的樓宇圖則，並於二零零七年一月一日生效。

消防處處長

（陳楚鑫　　代行）

連附件

二零零六年八月一日

# Recommendation of Fire Safety Standard Advisory Group

Except those named in the following lists, all clauses stipulated in the Loss Prevention Council Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003 (including Technical Bulletins, Notes, Commentary and Recommendations) are to be followed :-

Abbreviations :

The following abbreviations shall be used in this document.

| | | |
|---|---|---|
| BS EN 12845 or BS | - | BS EN 12845 : 2003 – Fixed Firefighting systems – Automatic sprinkler systems – Design, installation and maintenance |
| BD | - | Buildings Department |
| EECoP | - | Code of Practice for the Electricity (Wiring) Regulations issued by Electrical and Mechanical Services Department |
| FH/HR | | Fire Hydrant / Hose reel |
| FRC Code | - | Code of Practice for Fire Resisting Construction, 1996 issued by the Buildings Department |
| FSCC | - | Fire Services Communication Centre |
| FSCoP | - | Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment issued by Hong Kong Fire Services Department |
| HKFSD or FSD | - | Hong Kong Fire Services Department |
| LPCB | - | Loss Prevention Certification Board |
| LPC Rules or LPC | - | Loss Prevention Council Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003 |
| TB | - | Technical Bulletins contained in the Loss Prevention Council Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003 and including all updated Technical Bulletins in February 2004 |

Definition :

The following definition is to be used in this document.

List One - Clauses not to be applied

List Two - Clauses to be replaced by modified conditions

List Three - Clauses to be taken as reference only.
(Note that these clauses may be applied provided that there are no conflicts with other regulations of Hong Kong).

Remarks :

To comply with the LPC Rules for Automatic Sprinkler Installations, the requirements in the Technical Bulletins shall be read in conjunction with the requirements in EN12845, one supplementing the other. Where the requirements of the Technical Bulletins differ from those of EN12845, the requirements of the Technical Bulletins shall prevail. Refer to details shown on individual Technical Bulletins.

## List One : Clauses not to be applied
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Reason |
|---|---|---|---|
| 1.1 | Clause 4.3 c); (Page 21) | general details of the water supplies, which if town main shall……., and a plan of the test site; and | Water Supplies Department may not provide such test data. |
| 1.2 | Clause 4.4.4.3 c) (Page 25) | the pressure/flow characteristics graph of the town main determined…….and either the control valve 'C' gauge or the suction tank infill valve, as appropriate; | Water Supplies Department may not provide such test data. |
| 1.3 | Clauses 5.1, 5.2 and 5.3 (Page 27, 28) | 5.1 Buildings and areas to be protected<br>Where a building is to be sprinkler protected, all areas of that building……NOTE No part of an unsprinklered building or section should be located vertically below a sprinklered building or section except as indicated in 5.1.1 and 5.1.2 | These sections have been replaced by TB 206. |
| 1.4 | Clause 8.3 & Table 8 (Page 43 - 44) | **Connections for other services**<br>Water for other services may be taken from a sprinkler system only when all the following conditions are met:<br>a) the connections shall be as specified in Table 8;<br>b) the connections shall be made through a stop valve fitted upstream of the control valve set(s), as close as is practical to the point of connection to the sprinkler system supply pipe;<br>c) the sprinkler system shall not be a high rise system;<br>d) the sprinkler system shall not be protecting a multi-story building.<br><br>The sprinkler system pumps shall be separate from any hydrant system pumps unless a combined water supply in accordance with 9.6.4 is used. | Connections from sprinkler system to supply water for other services are not permitted by FSD. |
| 1.5 | Clause 9.2.1 (Page 45) | **General**<br>A pressure switch shall be installed and shall operate an alarm when the pressure in the supply drops to a predetermined value. The switch shall be positioned upstream of any non-return valve and shall be equipped with a test valve (see annex I). | This is not mandatory as storage tank is required for sprinkler installation. |

## List One : Clauses not to be applied
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Reason |
|---|---|---|---|
| 1.6 | Clause 9.2.2 (Page 46) | **Boosted mains**<br>If booster pumps are used, they shall be installed in accordance with the requirements of clause 10.<br>NOTE The agreement of the water authority will normally be needed for a booster pump to be connected to a town main.<br>Where a single pump is installed, a by-pass connection shall be provided with at least the same dimension as the water supply connection to the pump and be fitted with a non-return valve and two stop valves. The pump or pumps shall be reserved solely for fire protection. | The arrangement of booster pump drawing water from a town main is not permitted by Water Supplies Department. |
| 1.7 | Clause 9.6.1 (Page 56) | **Single water supplies**<br><br>The following constitute acceptable single water supplies:<br>a) a town main;<br>b) a town main with one or more booster pumps;<br>c) a pressure tank (LH and OH 1 only);<br>d) a gravity tank;<br>e) a storage tank with one or more pumps;<br>f) an inexhaustible source with one or more pumps. | Single water supplies do not comply with clause 5.30 of FSCoP. |
| 1.8 | Clause 9.6.4 (Page 57) | Combined water supplies<br>Combined water supplies shall be superior single or duplicate water supplies designed to supply more than one fixed fire fighting system, as for example in the case of combined hydrant, hose and sprinkler installations.<br>NOTE Some countries may not allow sprinkler systems to be fed from a combined supply.<br>Combined supplies shall fulfill the following conditions:<br>“a) ----<br>b) ----<br>c) ----<br>d) ---- ” | Sprinkler tank is not permitted to be used for other system by FSD. |
| 1.9 | Clause 10.2 Para. 3 (Page 58) | Where more than one pump is installed in a superior or duplicate water supply, no more than one shall be driven by an electric motor. | To suit local situation. |

## List One : Clauses not to be applied
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Reason |
|---|---|---|---|
| 1.10 | Clause 11.1.2.1 (Page 71) | **Protection by anti-freeze liquid**<br>The number of sprinklers in any one section of piping …..….. to prevent contamination of the water. | Not practical in local use and anti freeze liquid was not employed as a means of preventing the water freezing in pipes in BS5306. |
| 1.11 | Clause 14.2 and Clause 14.5 (Page 109) | Whole sections | These sections have been replaced by TB 207. |
| 1.12 | Clause 18.2.4 (Page 123) | Water supply connections to other services | Sprinkler tank is not permitted to be used for other system by FSD. |
| 1.13 | Annex F Clause F.3 (Pages 153) | Quick response sprinklers shall be used, …… or no less than 5m in height. | To suit local practice of building plan submission approval. |
| 1.14 | Annex G.2<br><br>(Page 155) | Whole section | This section has been replaced by TB 215. |
| 1.15 | Annex G.5 (Page 160) | Whole section | This section has been replaced by TB 216. |
| 1.16 | Annex H Clause H.2.7 Para. 1 (Page 164) | "**H.2.7 Temperature**<br><br>Minimum temperature of the sprinkler valve and pump room. An indication shall be given if the temperature drops below the minimum required level." | As the local climate is different from foreign country, this Clause is not required. |
| 1.17 | Annex I Table I.1 (Page 166) | The following alarms shall be deleted:<br><br>(a) Low pressure in town main;<br>(b) Electric pump set on demand;<br>(c) Monitored sprinkler systems – low temperature in pump room | (a) To suit the deleted Clause 9.2.1.<br>(b) To suit the deletion of this signal in Clause 10.8.6.1.<br>(c) To suit the deleted Clause H.2.7. |

## List One : Clauses not to be applied
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Reason |
|---|---|---|---|
| 1.18 | TB 206.2. | General<br>The main objective of this Technical Bulletin……Guide for the Fire Protection of Buildings 2000 (LPC Design Guide) be consulted. | Local Code of Practices of BD should be followed. |
| 1.19 | TB206.3. | Fire resistance……., as specified in Tables TB206.T1 and TB206.T2 | Local Codes of Practices of BD should be followed. |
| 1.20 | TB206.4.1 | Buildings to be sprinkler-protected……., Appendix D of Approved Document B, The Building Regulations, 2000. | Local Codes of Practices of BD should be followed. |
| 1.21 | TB206.4.4 | External fire spread…….should be passively fire protected. | Local Codes of Practices of BD should be followed. |
| 1.22 | TB206.4.5 | Separation of unsprinklered and sprinklered areas…….external fire protection matters can be found in Parts 3 and 5 of LPC Design Guide. | Local Codes of Practices of BD should be followed. |
| 1.23 | TB206.5. | Storage in the open space…….a suitable exposure protection system. | To suit the current local requirements. |
| 1.24 | TB206.6. | Publications referred to…….Installations of Electric Lifts, British Standards Institution. | Publications listed do not form part of local statutory requirements. |
| 1.25 | TB218:2004:1 (Page 1 of 6) | Figure TB218.F1 Superior Supply using town main | Direct connection to town main only does not comply with clause 5.30 of FSCoP and which is also subject to Water Supplies Department's approval. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.1 | Clause 3.15 (Page 15) | **Booster Pump**<br>Automatic pump supplying water to a sprinkler system from a gravity tank or town main. | **Booster Pump**<br>Automatic pump supplying water to a sprinkler system from a gravity tank. | Booster pump of direct connection to town main is not permitted in Hong Kong. |
| 2.2 | Clause 5.4 Para. 3 (Page 28) | If the height of the concealed space at roof and floor exceeds 0.8m, measured between the underside of the roof and the top of the suspended ceiling or between the floor and the underside of the raised floor, these spaces shall be sprinkler protected.<br><br>If the height of the concealed space at roof and floor is no greater than 0.8m, the spaces shall be sprinkler protected only if they contain combustible materials or are constructed with combustible materials. Electrical cables with voltage less than 250V, single phase, with a maximum of 15 cables per tray, are allowed.<br><br>“The protection in the concealed space shall be to LH when the main hazard class is LH, and OH and OH1 in all other cases. See 17.3 for the pipework arrangement.” | The concealed space at roof and floor regardless of height shall be sprinkler protected.<br><br>The protection in the concealed space shall be same as the main hazard class.<br><br>Should the space be physically not adequate and not feasible for sprinkler installation, this should state clearly in the fire service notes of general building plans submission for FSD’s acceptance. However, the concealed space shall not contain any combustible materials. | It is the intent of this BSEN Standard to protect the concealed ceiling and floor spaces with sprinkler if there are fire risks inside.<br><br>With due consideration that ceiling voids and raised floor spaces are always extensively used for addition of various types of services after issuing of Occupation Permit, such situation will increase the fire risks of these spaces. Adopt the concept of this BSEN Standard, ceiling and floor voids should therefore be sprinkler protected regardless of their heights. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.3 | Clause 8.1.1<br>(Page 42) | Duration<br>Water supplies shall be capable of automatically furnishing at least the required pressure/flow conditions of the system. If the water supply is used for other fire fighting systems, --- --- each water shall have sufficient capacity for the following minimum durations:<br><br>-LH 30 min<br>-OH 60min<br>-HHP 90min<br>-HHS 90min<br>NOTE in the case--- | Duration<br>Water supplies shall be capable of automatically furnishing at least the required pressure/flow conditions of the system and water shall have sufficient capacity for the following minimum durations:<br><br>-LH 30 min<br>-OH 60min<br>-HHP 90min<br>-HHS 90min<br><br>The duration shall be used for full hydraulic calculation purpose. | Water supply used for other fire fighting system is not acceptable in current practice. |
| 2.4 | Clause 8.4<br>(Page 44) | Housing of equipment for water supplies<br>Water supply equipment, such as pumps pressure tanks and gravity tanks, shall not be housed in buildings or sections of premises in which there are hazardous processes or explosion hazards. The water supplies, stop valves and control valve sets shall be installed such that they are safely accessible even in a fire situation. All components of the water supplies and control valve sets shall be installed such that they are secured against tampering and are adequately protected against freezing. | Housing of equipment for water supplies<br>Water supply equipment, such as pumps, pressure tanks and gravity tanks, shall not be housed in sections of premises in which there are hazardous processes or explosion hazards. The water supplies, pumps, stop valves and control valve sets shall be installed such that they are safely accessible even in a fire situation and the place should be adequately ventilated. All components of the water supplies and control valve sets shall be installed such that they are secured against tampering and are adequately protected against freezing. | More practicable to suit local situation and provide safe condition for maintenance & operation. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.5 | Clause 8.5.1 Last Paragraph (Page 44) | Dry or alternate control valve sets (main or subsidiary) may have an additional flow test valve arrangement of unspecified flow loss characteristic fitted below the control valve set, downstream of the main stop valve, to facilitate informal supply pressure testing. Such flow test valves and pipe work shall have a nominal diameter of 40 mm for LH installations and of 50 mm for other installations. | Dry or alternate control valve sets (main or subsidiary) may have an additional flow test valve arrangement of unspecified flow loss characteristic fitted at the control valve set, downstream of the control valve set or of its downstream stop valve if fitted, to facilitate informal supply pressure testing. Such flow test valves and pipe work shall have a nominal diameter of not less than 40 mm for LH installations and of not less than 50 mm for other installations. | In line with Fig. D1 in Page 148. |
| 2.6 | Clause 8.5.2 (Page 45) | At least one suitable flow and pressure measuring arrangement shall be permanently installed and shall be capable of checking each water supply. | At least one suitable flow measuring arrangement shall be permanently installed and shall be capable of checking each water supply for the reduced capacity tank. | To suit local practice. |
| 2.7 | Clause 9.3.2.1 Para. 1 (Page 46) | For each system a minimum water volume is specified. This shall be supplied from one of the following:<br>--a full capacity tank, with an effective capacity at least equal to the specified water capacity;<br>-- a reduced capacity tank (see 9.3.4), where the required water volume is supplied jointly by the effective capacity of the tank plus the automatic infill. | For each system a minimum water volume is specified. This shall be supplied from one of the following:<br>-- a full capacity tank, with an effective capacity at least equal to the specified water capacity;<br>-- a full capacity tank equivalent with 2/3 of full capacity plus direct connection to Service Provider's Computerized Fire Alarm Transmission System<br>-- a reduced capacity tank (see modified clause 9.3.4), where the required water volume is supplied jointly by the effective capacity of the tank plus the automatic infill. | To suit local practice. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.8 | Clause 9.3.2.1 Para. 3 (Page 46) | Except for open reservoirs, tanks shall be provided with an externally readable water level indicator. | Except for open reservoirs, tanks shall be provided with over flow and level alarms. | To suit current practice. |
| 2.9 | Clause 9.3.3 Para. 1 (Page 48) | **Refill rates for full capacity tanks**<br>The water source shall be capable of refilling the tank in no more than 36 hour. | **Refill rates for full capacity tanks**<br>The water source shall be capable of refilling the tank in no more than 24 hour or 75L/min whichever is larger. However, the tank shall be refilled in six hours if transfer pump is required for refilling. | To comply with clause 5.30 of FSCoP. |
| 2.10 | Clause 9.3.4 (Page 48) | Reduced capacity tanks<br>The following conditions shall be met for reduced capacity tanks:<br>a) the inflow shall be from a town main and shall be automatic, via at least two mechanical float valves. The inflow shall not adversely influence the pump suction;<br>b) the effective capacity of the tank shall be no less than that shown in Table 11;<br>c) the tank capacity plus the inflow shall be sufficient to supply the system at full capacity as specified in 9.3.2;<br>d) it shall be possible to check the capacity of the inflow;<br>e) the inflow arrangement shall be accessible for inspection. | **Reduced capacity tanks**<br>The following conditions shall be met for reduced capacity tanks:<br>a) the inflow shall be from a town main and shall be automatic, via at least two mechanical float valves. The inflow shall not adversely influence the pump suction;<br>b) the effective capacity of the tank shall be no less than that shown in Table 11 below for both end supplies;<br>c) the tank capacity plus the inflow shall be sufficient to supply the system at full capacity as specified in 9.3.2;<br>d) it shall be possible to check the capacity of the inflow;<br>e) the inflow arrangement shall be accessible for inspection;<br>f) a sprinkler inlet must be provided. | To suit the local requirement. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

<table>
<tr><th>List-Item</th><th>BS or TB Clause/Paragraph/ Table/Page</th><th>Context</th><th>Replaced by</th><th>Reason</th></tr>
<tr><td></td><td></td><td>Table 11- Minimum capacity of reduced capacity tanks
<table>
<tr><th>Hazard Class</th><th>Minimum capacity $m^3$</th></tr>
<tr><td>LH – (Wet or pre-action)</td><td>5</td></tr>
<tr><td>OH1- Wet or pre-action</td><td>10</td></tr>
<tr><td>OH1- Dry or alternate<br>OH2- Wet or pre-action</td><td>20</td></tr>
<tr><td>OH2- Dry or alternate<br>OH3- Wet or pre-action</td><td>30</td></tr>
<tr><td>OH3- Dry or alternate<br>OH4- Wet or pre-action</td><td>50</td></tr>
<tr><td>HHP and HHS</td><td>70<br>but in no case less than 10% of the full capacity</td></tr>
</table></td><td>Table 11- Minimum capacity of reduced capacity tanks
<table>
<tr><th>Hazard Class</th><th>Minimum capacity $m^3$</th></tr>
<tr><td>LH – (Wet or pre-action)</td><td>2.5</td></tr>
<tr><td>OH1- Wet or pre-action</td><td>25</td></tr>
<tr><td>OH1- Dry or alternate<br>OH2- Wet or pre-action</td><td>50</td></tr>
<tr><td>OH2- Dry or alternate<br>OH3- Wet or pre-action</td><td>75</td></tr>
<tr><td>OH3- Dry or alternate<br>OH4- Wet or pre-action</td><td>100</td></tr>
<tr><td>HHP and HHS</td><td>2/3 of the full capacity</td></tr>
</table></td><td>To suit local requirement.</td></tr>
<tr><td>2.11</td><td>Clause 9.5.2<br>(Page 54)</td><td>a) a sprinkler protected building;<br>b) a separate sprinkler protected building of Euro class A1 or A2 or an equivalent in existing national classification systems construction used solely for ……<br>c) an unprotected building situated in a 60 min fire resistant compartment ….<br>When the pressure tank is housed in a sprinkler protected building the area shall be enclosed by fire resistant construction of no less than 30 min.</td><td>a) a sprinkler protected building;<br>b) a separate sprinkler protected building complying with local requirement used solely for….<br>c) an unprotected building complying with local requirement with appropriate fire resisting compartment ….<br>When the pressure tank is housed in a sprinkler protected building the area shall be enclosed by fire resistant construction complying with local requirement.</td><td>To suit local requirement.</td></tr>
</table>

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.12 | Clause 9.6<br>(Page 56) | Choice of water supply | Add a paragraph that "A superior water supply (detailed in modified clause 9.6.2) or duplicate water supplies are required in Hong Kong." | To suit local Practice. |
| 2.13 | Clause 9.6.2<br>(Page 56) | Superior water supplies are single water supplies which provide a higher degree of reliability. They include the following:<br>a) a town main fed from both ends, fulfilling the following conditions:<br>--each end shall be capable of satisfying the pressure and flow demands of the system;<br>--it shall be fed from two or more water sources; it shall be independent at any point on a single, common trunk main;<br>--if booster pumps are required, two or more shall be provided.<br><br>b) a gravity tank with no booster pump, or storage tank with two or more pumps, where the tank fulfils the following conditions:<br>-- the tank shall be full capacity;<br>-- there shall be no entry for light or foreign mater;<br>-- potable water shall be used;<br>-- the tank shall be painted or given other corrosion protection which reduces the need for emptying the tank for maintenance to periods of no less than 10 years.<br>c) an inexhaustible source with two or more pumps. | Superior water supplies are single water supplies which provide a higher degree of reliability. They are acceptable to FSD provided that they are commented by FSD and fire service inlet must be provided to the system. The acceptable superior water supplies include the following:<br>a) a single ended feed from town main supplying suction tank will be accepted provided that the tank has a full tank capacity equivalent stated in modified clause 9.3.2.1, two or more booster pumps shall be provided.<br>b) both end supplies complying with preceding modified clause 9.3.4 for reduced capacity tank.<br>c) a gravity tank with no booster pump, or storage tank with two or more pumps, where the tank fulfils the following conditions:<br>-- the tank shall be full capacity;<br>-- there shall be no entry for light or foreign matter;<br>-- potable water shall be used; the tank shall be of concrete construction or LPC approved. | To suit local Practice. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.14 | Clause 9.6.3 Para. 2 (Page 56) | Any combination of single supplies (including superior single supplies ) may be used, with the following limitations:<br>a) no more than one pressure tank shall be used for OH systems;<br>b) one storage tank of the reduced capacity type may be used (see 9.3.4). | Any combination of single supplies (including superior single supplies ) may be used, with the following limitations:<br>a) no more than one pressure tank shall be used for OH systems;<br>b) one storage tank of the reduced capacity type may be used (see 9.3.4);<br>c) town main with either a pressure tank, gravity tank or elevated private reservoir is not accepted;<br>d) town main directly connected with automatic pumps is not accepted.<br>Fire service inlet shall be provided to the system. | To comply with clause 5.30 of FSCoP. |
| 2.15 | Clause 10.1 Last Paragraph (Page 58) | The coupling between the driver and the pump of horizontal pump sets shall be of a type which ensures that either can be removed independently and in such a way that pump internals can be inspected or replaced without affecting suction or discharge piping. End suction pumps shall be of the “back pull-out” type. Pipes shall be supported independently of the pump. | The coupling between the driver and the pump of horizontal pump sets shall be of a type which ensures that either can be removed independently and in such a way that pump internals can be inspected or replaced without affecting suction or discharge piping. End suction pumps should preferably be of the “back pull-out” type. Pipes shall be supported independently of the pump. | To suit local requirement. |
| 2.16 | Clause 10.3.1 Para. 1 (Page 58) | “Pumpsets shall be housed in a compartment having a fire resistance of no less than 60min, used for no other purpose than fire protection.” | “Pumpsets shall be housed in a compartment having a wall of appropriate fire resistance, used for no other purpose than fire protection.” | The fire resistant period of pump room has already been governed by relevant Building Regulations. |
| 2.17 | Clause 10.3.1 Para. c (Page 58) | c) a compartment within a sprinkler protected building with direct access from outside. | c) a readily accessible compartment within a sprinkler protected building. | To reflect local practice. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.18 | Clause 10.3.2 (Page 58) | Compartments for pumpsets shall be sprinkler protected. --- | Compartments for sprinkler pumpsets shall be sprinkler protected or protected by fire detection system in accordance with building plan approved.--- | To suit local requirement. |
| 2.19 | Clause 10.5 (2nd paragraph) (Page 59) | Any taper pipe fitted to the pump outlet shall expand in the direction of flow at an angle not exceeding $15^{o}$. Valves on the delivery side shall be fitted after any taper pipe. | Any taper pipe fitted to the pump outlet shall expand in the direction of flow. Valves on the delivery side shall be fitted after any taper pipe. | Follow local practice according to FSD Circular Letter No. 2/94. |
| 2.20 | Clause 10.5 Para. 4, last sentence (Page 59) | The outlet shall be clearly visible and where there is more than one pump the outlets shall be separate. | The outlet of arrangement of cooling pipe shall be clearly visible and where there is more than one pump, the outlets shall be separate. Separate cooling pipe of each pump could return to the sprinkler tank through a common header of at least twice the diameter of the cooling pipe. | To provide details on arrangement for the cooling of water pump. |
| 2.21 | Clause 10.6.1 Para.1 (Page 59) | Whenever possible, horizontal centrifugal pumps shall be used, installed with a positive suction head….. following: | Whenever possible, pumps shall be used, installed with a positive suction head….. following: | Allow flexibility to suit local situation. |
| 2.22 | Clause 10.6.2.1 (1st paragraph) (Page 60) | The pump suction shall be connected to a straight or taper pipe at least two diameters long. The taper pipe shall have a horizontal top side and a maximum included angle not exceeding $15^{o}$. Valves shall not be fitted directly to the pump inlet. | The pump suction shall be connected to a straight or taper pipe of appropriate angle. When the suction pipe and pump suction flange are not of the same size, they shall be connected with an eccentric taper reducer or taper pipe (preferable with angle not exceeding $15^{o}$) with horizontal top side in such a way to avoid air pockets. | Follow local practice (see Clause 20.1.3.2 of BS 5306: Part 2, and item 5.1 in List Three of FSD Circular Letter No. 2/94). |
| 2.23 | Clause 10.6.2.1 Table 14 Last Column (Page 60) | For tanks, with water supply at low water level (see X in Figure 4).<br>For booster pumps, with minimum town main pressure. | For tanks, with water supply at low water level (see X in Figure 4). | Town main with booster pump is not accepted. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.24 | Clause 10.6.2.1 (last paragraph) (Page 60) | A foot valve shall be fitted where the centre line of the pump is above the low water level (see 9.3.5) | A foot valve shall be fitted where not less than one-sixth of the effective stored water capacity is contained between the centre line of the pump and the low water level (see 9.3.5). | To suit local practice and to follow Clause 17.4.8.3 in BS 5306 : Part 2. |
| 2.25 | Clause 10.6.2.4 Figure 6 (Page 62) | Pump priming arrangement for suction lift | Key 5 and 6 for overflow and drain pipe respectively shall not be interconnected. Overflow shall be led to conspicuous point. | To meet local Water Authority's requirement. |
| 2.26 | Clause 10.7.1 (1st paragraph) (Page 63) | Where the pumps take water from a storage tank, the characteristic of pre-calculated LH and OH systems shall conform to Table 16. | Where the pumps take water from a storage tank, the characteristic of pre-calculated LH and OH systems shall conform to Table 16. Except for nominal data, the pressure loss due to friction and static head between the water supply and the control valve set shall be added. | To provide a clear requirement. See also Clause 7.3.1 of EN 12845. |
| 2.27 | Clause 10.8.1.2 (Page 65) | | Add "Clause 10.8.1.3 All the electrical work shall comply with the Local Code of Practice for Electricity (Wiring) Regulations". | To comply with local electricity work requirement. |
| 2.28 | Clause 10.8.2.1 Para. 1 (Page 65) | The supply to the pump controller shall be solely for use of the sprinkler pumpset and separate from all other connections. Where permitted by the electrical utility, the electrical supply to the pump controller shall be taken from the input side of the main switch on the incoming supply to the premises and where this is not permitted, by a connection from the main switch. | The supply to the pump controller shall be solely for use of the sprinkler pumpset and separate from all other connections (a common power supply for all pumps of fire service installations in the same room may be accepted). The electrical supply to the pump controller shall be backed up by an emergency generator. When no emergency generator is required and subject to the permission of the electrical utility, the electrical supply to the pump controller shall be taken from the input side of the main switch on the incoming supply to the premises and where this is not permitted, by a connection from the main switch. | To comply with local requirement. |

## List Two : Clauses to be replaced by modified conditions
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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.29 | Clause 10.8.2.2 (Page 65) | All cables shall be protected against fire and mechanical damage.<br><br>To protect from direct exposure to fire ---------- single lengths, with no joins. | Add: Cable for sprinkler system shall be:<br>a) Category AWX or SWX complying with BS6387 or equivalent; or<br>b) Mineral insulated copper–sheathed cables complying with BS 6207 or BS EN 60207; or<br>c) Other international standards acceptable to the Director of Fire Services.<br>For cable under the conditions as mentioned in the remarks section of Appendix 6 of the FSCoP, it may be exempted from the above minimum requirement. | To suit local practice and add alternatives for fire resistant power supply cables (the fire resistant requirement for cable would be reviewed together with that for other fire service installations). |
| 2.30 | Clause 10.8.3.1 Para. 1 (Page 65) | | Add after the paragraph: "The main switchboard should be situated where access by the fire services personnel is readily available for isolation of non-essential power supplies to a building." | To suit local practice. |
| 2.31 | Clause 10.8.3.2 (Page 66) | Each switch ---------- SPRINKLER PUMP MOTOR SUPPLY – NOT TO BE SWITCHED OFF IN THE EVENT OF FIRE ---------- against tampering. | Each switch ---------- SPRINKLER PUMP MOTOR SUPPLY – NOT TO BE SWITCHED OFF IN THE EVENT OF FIRE 花灑泵電源 – 火警時不要切斷 ---------- against tampering. | To provide Chinese translation to the signage. |
| 2.32 | Clause 10.8.6.1 (Page 66) | The following conditions shall be monitored (see annex I):<br>- power available to the motor and, where AC, on all three phases;<br>- pump on demand;<br>- pump running;<br>- start failure. | The following conditions shall be monitored (see annex I):<br>- power supply on;<br>- pump running;<br>- pump failed. | To follow similar requirements in FH/HR systems as stated in FSCoP. |
| 2.33 | Clause 10.8.6.2 (Page 66) | All monitored conditions shall be …… attended by responsible personnel. | All monitored conditions shall be displayed at the pump control panel, and repeated at the fire control room or at a panel at the main entrance of the building. | To follow similar requirements in FH/HR systems as stated in FSCoP. |
| 2.34 | Clause 10.9.6 Para. 2 (Page 68) | The fuel tank shall be of welded steel. Where there is more than one engine, there shall be a separate fuel tank and fuel feed pipe for each one. | Add "the fuel tank requirement shall comply with local regulation." | To suit local requirement. |

## List Two : Clauses to be replaced by modified conditions
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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
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| 2.35 | Clause 11.1.2 (Page 71) | Parts of the installation subject to freezing may be protected by anti-freeze liquid or electrical trace heating or subsidiary dry pipe or alternate extensions (see 11.5). | Parts of the installation subject to freezing may be protected by the use of dry upright or dry pendent sprinklers projecting into the low-temperature area or electrical trace heating or subsidiary dry pipe or alternate extensions (see 11.5). | Dry sprinklers are commonly used in existing practice. |
| 2.36 | Clause 11.1.2.2 Para. 1 (Page 71) | The piping shall be provided with a Euro class A1 or A2 or equivalent in existing national classification system insulation. | The piping shall be provided with a Euro class A1 or A2 (classified according to BS EN1350-1) or equivalent. | Add BS EN no. for ease of reference. |
| 2.37 | Clause 11.1.2.2 Para. 2, 5th line (Page 72) | All trace heated pipework shall be lagged with Euro class A1 or A2 or equivalent in existing national classification systems insulating material of not less than 25mm thick with ….. | All trace heated pipework shall be lagged with Euro class A1 or A2 (classified according to BS EN1350-1) or equivalent insulating material of not less than 25mm thick with ….. | Add BS EN no. for ease of reference. |
| 2.38 | Clause 11.4.1 General (Page 73) | Pre-action installations shall be one of the following types: | Pre-action installations can be independent installations or subsidiary extensions. They shall be one of the following types: | To clarify the acceptance of existing practice in pre-action installation design. |
| 2.39 | Clause 11.4.1.2 (Page 73) | This is an otherwise normal dry pipe installation in which the control valve set is activated either by an automatic fire detection system or by the operation of the sprinklers. --- | This is an otherwise normal dry pipe installation in which the control valve set is activated either by an automatic fire detection system and/or by the operation of the sprinklers. --- | To suit local practice. |
| 2.40 | Clause 11.6 (Page 74) | Subsidiary water spray extension | Add a new paragraph at the end of Clause 11.6 “Water spray system should be installed in accordance with the standards acceptable to the Director of Fire Services.” | To suit the requirement stated in FSCoP. |
| 2.41 | Clause 12.3 Sub-Para. 1 (Page 77) | - where arrangements are made to prevent adjacent sprinklers from wetting each other. This may be achieved by using baffles of approximately 200mm x 150mm, or by using intervening constructional features; | - where arrangements are made to prevent adjacent sprinklers from wetting each other. This may be achieved by a sheet metal or fire resistance sheet not less than 200mm wide and 150mm high located midway between the sprinklers (when the baffle is fitted on the range pipe its top edge shall extend above the sprinkler deflector by 50mm to 75mm), or by using intervening constructional features; | Specify details for the baffle material and its location. |

## List Two : Clauses to be replaced by modified conditions
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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.42 | Clause 12.4.2 (Page 78) | Sprinklers shall be installed not lower than 0.3m below the underside of combustible ceilings or 0.45m below Euro class A1 or A2 or equivalent in existing national classification systems roofs or ceilings. | Sprinklers shall be installed not lower than 0.3m below the underside of combustible ceilings or 0.45m below non-combustible ceilings. | To suit local practice. |
| 2.43 | Clause 12.4.10 (Page 82) | Platforms, ducts, etc. | Add a new paragraph at the end of Cause 12.4.10 "e) Sprinkler heads should be installed at least 300mm from the bottom edge of air duct/obstructions etc. in order to accumulate suitable amount of heat to operate the sprinklers." | To suit local practice (discussed at the 139th FSI Inspection working group meeting.) |
| 2.44 | Clause 12.4.12 (Page 82) | Vertical shafts and chutes | Add a new paragraph at the end of Cause 12.4.12 "Enclosed chutes through floors inside or in communication with sprinklered buildings shall be fitted with sprinklers.<br>Lift complying with BS5655: Part I are not required to be fitted with sprinklers, because that standard specifies that they shall not be fitted. " | Local requirement as detailed in item 5.1 of "Clauses to be replaced by modified conditions" attached to FS Circular Letter No. 2/94 shall be followed. |
| 2.45 | Clause 12.4.14 (Page 83) (last para.) | Where obstructions above the ceiling are likely to cause significant interference of the water discharge they shall be treated as walls for the purpose of sprinkle spacing. | Where ductworks are installed above the ceiling with width of 800mm for rectangular duct or 1000mm for circular duct, sprinkler protection is required under ductwork for that space. | To suit local practice for the requirement of additional sprinkler protection for obstructions inside ceiling void. |
| 2.46 | New Clause 13.1.2 (Page 87) | - | Add the following new Clause after Clause 13.1.1 :<br><br>**"13.1.2 Orifice plate**<br><br>If orifice plates are to be used for balancing an installation or accommodating pump characteristics, their design and installation requirements shall comply with Clause 24.1.3 and Appendix B of BS 5306: Part 2 or other standards acceptable to FSD." | The design requirements of orifice plate have not been mentioned in the LPC Rules. Since the use of orifice plate is common in balancing the pumping system, the adding of this design and installation requirements with alternate standards are needed. |

## List Two : Clauses to be replaced by modified conditions
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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.47 | Figure 17<br>Key<br>(Page 99) | "Dimensions shown as 20, 25, 32 indicate probable pipe sizes resulting from calculation" | "Dimensions shown as <25> or <32> indicate probable pipe sizes resulting from calculation" | To incorporate the amended items as stipulated in the 2004 Edition of the BS. |
| 2.48 | Figure 18<br>Key<br>(Page 100) | " 1 Control valve set<br>1 (2 sprinkler point)<br>2 (3 sprinkler point)<br>3, 5, 6, and 7 (2 sprinkler point)" | " 4 Control valve set<br>1, 3 (19 sprinkler point)<br>2 (17 sprinkler point)<br>6 and 7 (19 sprinkler point)<br>5 (9 sprinkler point)" | To amend the typing mistake and to redefine clearly the respective keys for the sake of consistency with other figures. |
| 2.49 | Clause 14.1<br>Para. 1<br>(Page 109) | "NOTE This standard covers only the use of the types of sprinkler specified in EN 12259-1.<br><br>Only new (i.e. unused) sprinklers shall be used. ……." | "NOTE This standard covers only the use of the types of sprinkler specified in EN 12259-1. Sprinkler head shall be approved by FSD. Sprinkler head approved by LPCB or complying with other standards may be used subject to the approval of FSD.<br><br>Only new (i.e. unused) and approved sprinklers shall be used in new installation. The existing sprinkler can be re-used in sprinkler alternation works subject to the condition of sprinkler in compliance with FSD requirement ……." | Add alternate standards for sprinkler head and in accordance with FSD Circular Letter No. 4/98, sprinkler head shall be approved by FSD.<br><br>To clarify that sprinkler can be re-used in alternation works because after the issue of OP, most owner/tenant will carry out alternation work to suit their need. If the condition of sprinkler is still acceptable, we should allow to re-used of existing sprinkler. |
| 2.50 | Clause 14.2<br>(Page 109) | The whole Clause 14.2, Sprinkler types and application from Page 109 to Page 111 | Clauses TB207.4.1 to TB207.4.5 from Page 1 to Page 3, The selection of sprinkler heads | Clause 14.2 has been replaced by relevant Clauses of TB207. |
| 2.51 | Clause 14.5<br>(Page 111) | The whole Clause 14.5, Sprinkler thermal sensitivity from Page 111 to Page 112 | Clause TB207.4.6, Sprinkler thermal sensitivity from Page 3 to Page 4, The selection of sprinkler heads | Clause 14.5 has been replaced by relevant Clause of TB207. |

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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
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| 2.52 | Clause 15<br>New Para.<br>(Page 113) | - | Add the following new Para. below Clause 15 Valves :<br><br>"Stop, test, drain and flushing valves shall comply with the appropriate standards and size range of Table 38 of BS 5306 : Part 2 or the relevant equivalent BS EN standards or other standards acceptable to FSD." | The relevant design standards of various types of valves have not been mentioned in the LPC Rules. The adding of the existing standards with alternate standards are needed. |
| 2.53 | Clause 15.1<br>Para. 1<br>(Page 113) | "Each installation shall have a control valve set in accordance with EN 12259-2 or EN 12259-3." | "Installation control valve (alarm valve) set shall be approved by FSD. Each installation shall have a control valve set in accordance with EN 12259-2 or EN 12259-3 or approved by LPCB or complying with other standards acceptable to FSD." | Add alternate standards for control valve set and in accordance with FSD Circular Letter No. 4/98, control valve (alarm valve) set shall be approved by FSD. |
| 2.54 | Clause 15.2<br>Para. 1<br>(Page 113) | "All stop valves which may cut off the water supply to the sprinklers shall :<br>- close in the clockwise direction;<br>- be fitted with an indicator that clearly shows whether it is in the open or closed position;<br>- …….. " | "All stop valves which may cut off the water supply to the sprinklers shall :<br>- close in the clockwise direction;<br>- be fitted with a tamper-proof electric switch to indicate that the valve is in the correct operational mode;<br>- …….. " | To suit local practice by adopting existing requirements. |
| 2.55 | Clause 15.4<br>Para. 2<br>(Page 114) | "The outlet shall be no more than 3m above the floor and shall be fitted with a brass plug." | "The outlet shall be accessible and shall be fitted with a brass plug." | To adopt a flexible approach for installation of the outlet. |
| 2.56 | Clause 15.5.2<br>Para. 1<br>(Page 115) | "A test facility shall be provided, incorporating a test valve with any associated fittings and pipework, delivering a flow equivalent to the discharge from a single sprinkler, connected at the hydraulically most remote location on a distribution pipe." | "A test facility shall be provided, incorporating a test valve with any associated fittings and pipework, delivering a flow equivalent to the discharge from a single sprinkler, connected at the hydraulically most remote location on a distribution pipe. At least one such test valve shall be provided for each zone." | To provide a clearer requirement. |

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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
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| 2.57 | Clause 15.6<br>Para. 1<br>(Page 115) | "Flushing connections, with or without permanently installed valves, shall be fitted on the spur ends of the installation distribution pipes." | "Flushing connections, with permanently installed valves, shall be fitted on the spur ends of the installation distribution pipes. At least one such flushing connection shall be provided for each zone." | To suit local practice and add provision requirements. |
| 2.58 | Clause 15.7.1<br>Para. 1<br>(Page 115) | "Pressure gauge scale divisions shall not exceed:<br>……." | "Pressure gauge fitted to sprinkler installations shall comply with BS 1780 or BS EN 837-1 or other appropriate standards and it's scale divisions shall not exceed:<br>……." | The relevant design standards of pressure gauge have not been mentioned in the LPC Rules. The existing standard with alternate standard is added. |
| 2.59 | New Clause 15.8<br>(Page 116) | - | Add the following new Clause after Clause 15.7.4 :<br><br>**"15.8 Check Valves**<br><br>Check valves shall comply with requirements as stipulated in Clause 20.2 and Table 40 of BS 5306 : Part 2 or the relevant equivalent BS EN standards or other standards acceptable to FSD." | The design requirements of check valve have not been mentioned in the LPC Rules. Since the use of check valve is common in local practice, the adding of this design and installation requirements with alternate standards are needed. |
| 2.60 | Clause 16.2.1<br>Para. 1<br>(Page 117) | "Electrical devices to detect the operation of sprinkler systems shall be either water flow switches conforming to EN 12259-5 or pressure switches." | "Electrical devices to detect the operation of sprinkler systems shall be either water flow switches conforming to EN 12259-5 or approved by LPCB or complying with other appropriate standards acceptable to FSD or pressure switches." | To add alternate standards for water flow switches. |
| 2.61 | Clause 16.3<br>Para. 1<br>(Page 117) | "The equipment for automatic transmission of alarm signals from a sprinkler installation to a fire brigade or remote manned centre shall be capable of being checked for :" | "The equipment for automatic transmission of alarm signals from a sprinkler installation to the service provider's Computerized Fire Alarm Transmission System or the approved manned centre shall be capable of being checked for :" | To suit local requirements. |

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| 2.62 | Clause 16.3 Note (Page 117) | "NOTE If a direct connection to the fire brigade exists, the testing procedure should be agreed with the authorities in order to avoid false calls." | "NOTE If a direct connection to the service provider's Computerized Fire Alarm Transmission System or the approved manned centre exists, the testing procedure should be agreed with the authorities in order to avoid false calls." | To suit local requirements. |
| 2.63 | Clause 17.1.1 NOTE (Page 117) | "NOTE The following types of pipe are recommended: cast iron, ductile iron, spun cement, reinforced glass fibre, polyethylene high density." | "NOTE The types of pipe which include grey cast iron, ductile iron, steel or copper and in accordance with the specifications as stipulated in the TB212 are recommended." | The types of pipe shall be in accordance with the specifications as stipulated in TB212. |
| 2.64 | Clause 17.1.2 Para. 1 (Page 118) | "Piping downstream of control valves shall be steel or copper (see 17.1.9) or other material in accordance with appropriate specifications ……." | "Piping shall be grey cast iron, ductile iron, steel or copper (see 17.1.9) and shall be in accordance with the specifications as stipulated in the TB212 ……." | The types of pipe shall be in accordance with the specifications as stipulated in TB212. |
| 2.65 | Clause 17.1.3 Para. 1 (Page 118) | "Pipes and fittings less than 50 mm in diameter shall not be welded …….. soldering or any other hot work be carried out in situ." | "The detail requirements and specifications for welding of steel pipe shall comply with Clause 21.3 of BS 5306 : Part 2." | The detail requirements and specifications for welding of steel pipe have not been mentioned in the LPC Rules. Adoption of the BS 5306 : Part 2 standard is needed. |
| 2.66 | Clause 17.1.3 Para. 3 (Page 118) | "Welders shall be approved in accordance with EN 287-1." | "Welders shall be approved in accordance with BS 4871-1 or EN 287-1 or other appropriate international standards." | Other alternate standards are adopted. |
| 2.67 | Clause 17.1.6 Para. 2 (Page 119) | "Where it is unavoidable for water supply pipework to pass through an unsprinklered building, it shall be installed at ground level and shall be enclosed to protect against mechanical damage, with appropriate fire resistance." | "Where it is unavoidable for sprinkler water supply pipework to pass through an unsprinklered building at within 2m above finished floor level at ground floor, it shall be enclosed to protect against mechanical damage, with appropriate fire resistance or enclosed by dwarf brick walls covered by concrete slabs." | To suit local practice by adopting existing requirements with new alternatives. |

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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.68 | Clause 18.2.1 (Page 122) | "A location plate of weather-resistant material and lettering shall be fixed on the outside of the external wall as close as practical to the entrance nearest the control valve set(s)."<br><br>"The plate shall bearing the wording 'SPRINKLER STOP VALVE' in letter no less than 35mm high, and 'INSIDE' in letters no less than 25mm high. The wording shall be in white letters on a red background." | "A location plate of weather-resistant material and lettering including Chinese characters shall be fixed on the outside of the external wall as close as practical to the entrance nearest the control valve set(s)."<br><br>"The plate shall bear the wording 'SPRINKLER STOP VALVE' '花灑總掣' in letter no less than 50mm high." | To suit local situation. |
| 2.69 | Clause 18.2.2 Para. 1 (Page 123) | 'SPRINKLER CONTROL VALVE' | "SPRINKLER CONTROL VALVE (花灑控制閥)" | To provide Chinese translation to the signage. |
| 2.70 | Clause 18.2.2 Para. 2&3 (Page 123) | The sign shall be rectangular with white letters no less than 20 mm high on a red background.<br>Where the stop valve is enclosed in a room with …….on a blue background. | "The sign should be rectangular with letters not less than 15 mm high.<br>Where the stop valve is enclosed, a second sign bearing the same words shall be provided on the outside of the enclosure." | To suit local situation and follow similar requirements on Fire Hydrant/Hose Reel Installation as stated in Code of Practice for Minimum Fire Service Installations and Equipment. |
| 2.71 | Clause 18.2.6.2 Page 124 | ---------- 'SPRINKLER PUMP SHUT-OFF'. | ---------- 'SPRINKLER PUMP SHUT-OFF 終止花灑泵運行'. | To provide Chinese translation to the signage. |
| 2.72 | Clause 18.2.6.3 Para. 1 (Page 124) | "SPRINKLER PUMP MOTOR SUPPLY – NOT TO BE SWITCHED OFF IN THE EVENT OF FIRE" | "SPRINKLER PUMP MOTOR SUPPLY – NOT TO BE SWITCHED OFF IN THE EVENT OF FIRE (花灑泵電源供應—在火警發生時切勿切斷電源)" | To suit local situation. |

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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
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| 2.73 | Clause 18.2.8 (Page 125) | | **Signs for Sprinkler Inlets**<br>Each sprinkler inlet shall be affixed with a metal identification plate raised or engraved with English and Chinese characters. The frontage of each inlet enclosure shall be clearly and permanently indicated in English and Chinese characters "SPRINKLER INLET" (花灑入水掣) of at least 50mm high. | To add the signage requirements for sprinkler inlet with a view to aligning with the same requirements for FS Inlet. |
| 2.74 | Clause 19.1.1.2 Para. 1 (Page 125) | All installation pipework shall be hydrostatically tested for no less than 2 h, to a pressure of no less than 15 bar, or 1.5 times the maximum pressure to which the system will be subjected, (both measured at the installation control valves) whichever is the greater. | All installation pipework shall be hydrostatically tested without pressure drop for no less than 2 h, to a pressure of no less than 15 bar, or 1.5 times the maximum pressure to which the system will be subjected, (both measured at the highest pressure appears in the system which shall take into account the discharge pressure at the pump outlets) whichever is the greater. | To suit local situation that pump rooms in basement level is common. |
| 2.75 | Clause 20.1.3 Para. 1 (Page 126) | A stock of spare sprinklers shall be kept on the premises for operated or damaged sprinklers. Spare sprinklers, together with sprinkler spanners as supplied by the supplier, shall be housed in a cabinet located in a prominent and easily accessible position where the ambient temperature does not exceed 27$^{o}$C. | A stock of spare sprinklers shall be kept in the Fire Control Room of the premises for operated or damaged sprinklers. Spare sprinklers, together with sprinkler spanners as supplied by the supplier, shall be housed in a cabinet or cabinets located in a prominent and easily accessible position where the ambient temperature does not exceed 40$^{o}$C. | To suit the general conditions of local plant rooms. |

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| 2.76 | Annex D<br>Clause D.2<br>Para. 2a, c,d.<br>(Page 145) | a) the number of sprinklers to be controlled by any one wet control valve set on any one floor shall not exceed 1000;<br>c) zoned installations shall not include any hazard greater then OH3;<br>d) car parks and areas involving the unloading and storage of goods shall be on a separate unzoned installation; | a) the number of sprinklers to be controlled by any one wet control valve set on any one floor shall not exceed 1000 or equivalent to 12 000 $m^2$ of maximum sprinkler protected area;<br>c) zoned installations shall normally not include any hazard greater then OH3;<br>d) car parks and areas involving the unloading and storage of goods shall be on a separate zoned / unzoned installation; | a) Same principle as Table 17 and more practicable to suit local situation.<br>c) To suit local practice.<br>d) To suit local practice. |
| 2.77 | Clause D.2<br>Para. 2f<br>(Page 145) | f) the total number of sprinklers controlled by any one control valve set shall not exceed 10 000 | f) the total number of sprinklers controlled by any one control valve set shall not exceed 10 000 or equivalent to 120 000 $m^2$ of maximum sprinkler protected area. | To suit local practice. |
| 2.78 | Annex D<br>Clause D.3.1<br>Para. 1a<br>(Page 145) | a) include more than 500 sprinklers; | a) include more than 500 sprinklers or equivalent to 6 000 $m^2$ of maximum sprinkler protected area; | Same principle as Table 17 and more practicable to suit local situation. |
| 2.79 | Annex D.<br>Clause 3.1.b<br>(Page 145) | Cover more than one floor level, which may however include a mezzanine floor no greater than 100 $m^2$. | Cover more than one floor level, which may however include a mezzanine floor no greater than 100 m2 and a staircase enclosure. | To suit FSD Circular Letter No. 2/94 as staircase enclosure can be treated as a zone. |
| 2.80 | Annex D<br>Clause D.3.2<br>(Page 146) | Zone subsidiary stop valves<br>Each zone shall be independently controlled by a single zone subsidiary stop valve, installed in a readily accessible position at the floor level of the zone it controls. ------ | Zone subsidiary stop valves<br>Each zone shall be independently controlled by a single zone subsidiary stop valve, installed in a readily accessible position at the floor level of the zone it controls. Where it is impractical to install at the level served, the subsidiary stop valve may be installed at other near level. ---- | Follow local practice (see Commentary to Clause 20.1.4 of BS 5306: Part 2, and item 5.2 in List Three of FSD Circular Letter No. 2/94). |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.81 | Annex D, D3.7 (Page 146) | The monitoring devices required by D.3.4 and D.3.6 shall be electrically connected to a control and indicating panel, installed at an accessible location on the premises, where the following indications and warnings shall be given:<br>a) green visual indicators …….. operational position.<br>b) audible devices and amber visual indicator to indicate ……. control valve set are not fully open;<br>c) audible devices and amber visual indicator to indicate …… stop valve are not fully open;<br>d) audible devices and amber visual indicator to indicate……..normal static pressure;<br>e) audible devices and…….. into the installation;<br>f) audible devices and……. one or more zones. | The monitoring devices required by D.3.4 and D.3.6 shall be electrically connected to a control and indicating panel, installed **at Fire Control Room or location agreed with FSD**, where the following indications and warnings shall be given or as per manufacturer's standard acceptable to FSD<br>a) green visual indicators …….. operational position.<br>b) audible devices and amber visual indicator to indicate ……. control valve set are not fully open;<br>c) audible devices and amber visual indicator to indicate …… stop valve are not fully open;<br>d) audible devices and amber visual indicator to indicate……..normal static pressure;<br>e) audible devices and…….. into the installation;<br>f) audible devices and……. one or more zones. | 1. To clarify the location of control and indicating panel.<br>2. To suit the standard provision as most approved AFA panel does not have green indicator for alarm zone indication.<br>3. Control indicating panel will be approved by FSD. |
| 2.82 | Annex D<br>Figure D.1<br>(Page 148) | Key2 Downstream stop valves plastic<br>Key4 Upstream stop valves | Key 2 Downstream stop valve<br>Key4 Upstream stop valve | To correct typing error. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.83 | Annex E<br>Clause E.3.4<br>(Page 150) | Pump performance for pre-calculated installations<br>Automatic pumps shall have characteristics in accordance with Table 16.<br>NOTE. Pressures are taken at the pump outlet or the relevant stage of multi-stage pumps, on the delivery side of any orifice plate. | Pump performance for pre-calculated installations<br>Automatic pumps shall have characteristics in accordance with Table 16. The pressure loss due to friction and static head between the water supply and the zone subsidiary stop valves shall be added.<br>NOTE. Pressures are taken at the pump outlet or the relevant stage of multi-stage pumps, on the delivery side of any orifice plate. | To provide a clear requirement. See also Clause 7.3.1 of EN 12845. |
| 2.84 | Annex E, E.1<br>(2nd para)<br>(Page 151) | The requirement…….greater than OH3. Special fire engineering solutions are needed for high rise systems with hazards greater than OH3, and specialist advice should be sought. | The requirement…….greater than OH3. **For** high rise systems with hazards greater than OH3, **FSD's** advice should be sought. | FSD is the local authority to accept any non-standard system. |
| 2.85 | Annex E, Figures E.1 and E.2<br>(Page 151 and 152) | Key<br><br>10.Water flow alarm switch rest valve and zone drain valve. | Key<br>.<br>10.Water flow alarm switch **test** valve and zone drain valve. | To correct typing error. |
| 2.86 | Annex F<br>Clause F.1<br>(Page 153) | Installations shall be subdivided into zones, in accordance with annex D, with a maximum of 200 sprinklers per zone. | Installations shall be subdivided into zones, in accordance with annex D, with a maximum of 200 sprinklers per zone, or equivalent to 2 400 $m^2$ of maximum sprinkler protected area. | Same principle as Table 17 and more practicable to suit local situation. |
| 2.87 | Annex F<br>Clause F.2<br>(Page 153) | **Wet Pipe pipe installations**<br>Sprinkler installations for life safety shall be of the wet pipe type and any subsidiary dry pipe or alternate extension shall comply with 11.5 | **Wet pipe installations**<br>Sprinkler installations for life safety shall be of the wet pipe type or pre-action type and any subsidiary dry pipe or alternate extension shall comply with 11.5 | To correct typing error and follow current practice. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.88 | Annex F<br>Clause F.4<br>(Page 153) | **Control Valve valve set**<br>During servicing and maintenance of the installation alarm valve, the sprinkler installation shall be fully operational in all aspects. | **Control valve set**<br>During servicing and maintenance of the installation alarm valves, the sprinkler installation shall be fully operational in all aspects. If duplicate installation control valve set is not provided, water alarm gong may not operate. | To correct typing error and follow current practice. |
| 2.89 | Annex F<br>Clause F.6<br>Para. 1<br>(Page 153) | In theatres with separated stages …… may be protected by sprinklers. | Add after the para. "In addition to sprinklers at the roof or ceiling, sprinklers shall be fitted under the grid, the flies, the stage and any other obstruction to the discharge from the roof or ceiling sprinklers. In stage areas of theatres, the coverage area of a sprinkler shall be not more than $9.0m^2$." | To maintain the local practice stated in current BS 5306 Part2 Clause 26.9.2 and Note 2 of Table 70. |
| 2.90 | Annex I<br>Clause I.1<br>Para. 1<br>(Page 165) | "Alarms, as specified in this standard, shall be connected to an alarm panel in the sprinkler control room or pump room ……." | "Alarms, as specified in this standard, shall be connected to the fire alarm panel in the fire control room or at the main entrance of the building.……." | To suit local practice. |
| 2.91 | Annex I<br>Clause I.2<br>Table I.1<br>(Page 166) | "Alarms<br>Electric pump set<br>- on demand<br>- start failure<br>- running<br>- power not available" | "Alarms<br>Electric pump set<br>- failed<br>- running<br>- power not available" | To suit the modified Clause 10.8.6.1. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.92 | TB206.4.2 | Exceptions (Buildings and parts of buildings not……. In these cases, other automatic extinguishing systems should be considered (e.g. gas, or powder). | **Exceptions (Buildings and parts of buildings not sprinkler protected)**<br>Permitted Exception:<br>Rooms protected by other automatic extinguishing systems (e.g. gas, powder and water spray)<br><br>Obligatory exceptions. Sprinkler protection shall not be provided in the following parts of a building or plant:<br><br>(d) grain silos or grain bins inside buildings forming part of a corn mill, distillery, maltings or oil mill;<br>(e) ovens, hovels and kilns in pottery, earthware, bricks, tile and glass works;<br>(f) areas, rooms or places where the water discharged from a sprinkler may present a hazard.<br><br>COMMENTARY AND RECOMMENDATIONS<br>Sprinkler should not be fitted over salt baths, metal melt pans or frying ranges, or indirectly drains into them nor should water pipes be fitted in these positions. | To retain the valid condition of this BSEN standard and adopt the previous section 4.2.1 of BS 5306 Part 2 which is the usual local practice. |
| 2.93 | TB206.4.3 | Whole section | Sprinkler protection need not be provided for all external canopies where goods are not stored or handled. | To follow local practice and to provide clarification on the sprinkler protection under canopies. |
| 2.94 | Table TB207.T1 Footnote (TB207, Page 2) | “Note 1 : See TB207.T2 for sprinkler selection in voids.” | “Note 1 : See Technical Bulletin TB20, table TB20.T2 of the Loss Prevention Council Rules for Automatic Sprinkler Installations incorporating BS 5306 : Part 2 for sprinkler selection in voids.” | The table TB207.T2 quoted in the LPC Rules is not related to sprinkler selection in voids. As the mentioned table is not provided, the old table is used. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.95 | Clause TB209.6.1 Para. 1(c) (TB209, Page 2) | "(c) sprinkler system maintenance contract with a company LPCB certificated to LPS 1048 or certificated under an equivalent scheme;" | "(c) sprinkler system maintenance contract with a registered fire service installation contractor;" | To suit local requirements. |
| 2.96 | Clause TB209.9.5 Para. 1(a) (TB209, Page 6) | "(a) where power ventilation is employed, the buildings shall be protected by LPCB (or equivalently) approved fire alarm installations. ……" | "(a) where power ventilation is employed, the buildings shall be protected by FSD's approved fire alarm installations. ……" | To suit local requirements. |
| 2.97 | Clause TB209.9.8 Para. 1 (TB209, Page 7) | " …….. an alarm shall be automatically transmitted to an LPCB (or equivalently) approved central station for fire alarm signaling. Alarm transmission systems shall comply with BS EN 16.3 and shall employ LPCB (or equivalently) approved signaling equipment. " | " …….. an alarm shall be automatically transmitted to the service provider's Computerized Fire Alarm Transmission System." | To suit local requirements. |
| 2.98 | Clause TB209.12.1 Item (a) (TB209, Page 12) | "(a) pump sets shall be in accordance with BS EN 12259-12. ……" | "(a) pump sets shall be in accordance with BS EN 12259-12 or approved by LPCB or complying with other appropriate standards acceptable to FSD. ……" | Other standards acceptable to FSD are included. |
| 2.99 | Clause TB209.12.1 Item (g) (TB209, Page 12) | "(g) the electric supply to electrically driven pumps shall be obtained from a public electricity supply or other reliable source." | "(g) the electric supply to electrically driven pumps shall be obtained from a public electricity supply and backed up by :<br>(i) an emergency generator if provided; or<br>(ii) the electricity supply obtained from the bypass switch installed before the consumer's main electricity supply switch if there is no emergency generator provided." | To suit local requirements. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.100 | New Clause TB209.12.1 Item (h) (TB209, Page 12) | - | Add the following new Clause after Clause TB209.12.1, Item (g) :<br><br>"(h) all power supply cables shall be fire resistant cable to BS 6387 Category AWX or SWX, or BS 6207 or BS EN 60702 or other standards acceptable to FSD. For cables under the conditions as mentioned in the remarks section of Appendix 6 of the FSCoP, it may be exempted from the above minimum requirement." | To suit local requirements and add alternate standards for fire resistant power supply cables. |
| 2.101 | Clause TB209.12.2 Item (a) (TB209, Page 13) | "(a) at least two full capacity suction pumps, one of which shall be diesel driven. …… " | "(a) at least two full capacity suction pumps, each of which can either be electrically or diesel driven. …… " | Add alternative by allowing each pump to be electrically or diesel driven. |
| 2.102 | Clause TB209.12.2 Item (b) (TB209, Page 13) | "(b) three half capacity suction pumps, two of which hall be diesel driven. …… " | "(b) three half capacity suction pumps, each of which can either be electrically or diesel driven. …… " | Add alternative by allowing each pump to be electrically or diesel driven. |
| 2.103 | Clause TB209.12.4 Para. 1 (TB209, Page 13) | " ……. The water source shall comprise a minimum of two independent LPCB (or equivalently) approved suction tanks, " | " ……. The water source shall comprise a minimum of two independent concrete or LPCB (or equivalently) approved suction tanks, " | Concrete tank can be used in local practice. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.104 | Clause TB209.12.4 Para. 2 (TB209, Page 13) | "COMMENTARY AND RECOMMENDATIONS ON TB209.12.4<br><br>Concrete tanks designed and constructed in accordance with BS 8007, with rigid roofs of concrete, metal or glass fibre reinforced plastic may be considered suitable.<br><br>All sprinkler tanks should comply with the Water Byelaws." | "COMMENTARY AND RECOMMENDATIONS ON TB209.12.4<br><br>Concrete tanks designed and constructed in accordance with the Building Regulations, with rigid roofs of concrete, metal or glass fibre reinforced plastic may be considered suitable.<br><br>All sprinkler tanks should comply with the Waterworks Regulations and Building Regulations." | To suit local regulations. |
| 2.105 | Figure TB209.F5 (TB209, Page 15) | Some wordings inside the figure shall be amended. | (a) "Diesel pump" as "Suction pump", and<br>(b) "Electric pump" as "Suction pump"<br><br>(amended Figure TB209.F5 at Annex I refers) | To suit local requirements. |
| | | - | Add the following pipeline with valves :<br><br>(a) pipeline with check valve and sprinkler inlet between the existing pump discharge valve and installation control valve, and<br>(b) supply pipe with ball valve assembly<br><br>amended Figure TB209.F5 at Annex I refers) | To suit local requirements. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.106 | TB210.2.3.2 (Page 2 of 6) | Pump suction isolating valves shall be …… or BS EN 1984:2000. | Pump suction isolating valves shall be ... …… or BS EN 1984:2000 "or other equivalent standard. | To allow flexibility to suit local situation. |
| 2.107 | TB210.2.4.1 (last paragraph) (Page 2 of 6) | A single suction header pipe may be used to feed more than one pump. The header pipe shall be sized to suit the maximum system demand flow. Branches connecting pumps to the header pipe shall be of the same nominal size as the header and shall include an isolating valve. | A single suction header pipe may be used to feed more than one pump. The header pipe shall be sized to suit the maximum system demand flow. Branches connecting pumps (other than the branch connecting jockey pump) to the header pipe shall be of the same nominal size as the header and shall include an isolating valve. | To provide a clear requirement. |
| 2.108 | Figure TB210.F1 (Page 3 of 6) | Typical jockey pump arrangement | The jockey pump suction pipe should be connected to the upstream side of the sprinkler pump suction stop valve as indicated in Annex II. | To obviate interruption to the jockey pump operation when the sprinkler pump is isolated for whatever reason. |
| 2.109 | Clause TB212.1 Para. 1 (TB212, Page 1) | "This Technical Bulletin revises and replaces BS EN Clause 17.1.1, 'Underground piping' and 17.1.2, 'Above ground piping', ……." | "This Technical Bulletin gives additional requirements relating to BS EN Clause 17.1.1, 'Underground piping' and 17.1.2, 'Above ground piping', ……." | As TB212 contains additional requirements to Clauses 17.1.1 and 17.1.2, it shall be read in conjunction with Clauses 17.1.1 and 17.1.2. |
| 2.110 | Clause TB212.2.1 Para. 1 (TB212, Page 1) | "Metallic pipes and fittings shall comply with the appropriate standard(s) of Table TB212.T1." | "Metallic pipes and fittings shall comply with the appropriate standard(s) of Table TB212.T1 or the relevant equivalent BS EN standards or other appropriate standards acceptable to FSD." | Other appropriate alternate standards acceptable to FSD are included. |

## List Two : Clauses to be replaced by modified conditions
## LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Replaced by | Reason |
|---|---|---|---|---|
| 2.111 | Clause TB212.2.1 Para. 2 (TB212, Page 1) | "COMMENTARY AND RECOMMENDATIONS ON TB212.2<br>Water Authorities (under sections 61 – 63 of the Water Act 1989) may choose not to permit water supplied by them to be conveyed upstream of an alarm valve by medium grade pipe complying with BS 1387 (or equivalent)." | "COMMENTARY AND RECOMMENDATIONS ON TB212.2<br>In accordance with the Schedule 2, Part 1 of the Waterworks Regulations, steel pipes shall be galvanized and complied with BS 1387 medium grade (or equivalent)." | To suit local statutory requirements. |
| 2.112 | Table TB212.T1 Row 5 (TB212, Page 1) | Above ground, downstream of alarm valve<br><br>Pipe –<br>"BS EN 1254-2" to be removed | Above ground, downstream of alarm valve<br><br>Fittings –<br>"BS EN 1254-2" to be inserted | BS EN 1254-2 is a copper and copper alloys plumbing fittings standard and it shall be placed in the column of 'Fittings' instead of 'Pipe'. |
| 2.113 | Table TB212.T1 Footnote (TB212, Page 1) | "Note 1 : Suitable only with integral flanges or grooved pipe mechanical joints.<br>……." | "Note 1 : Suitable only with integral flanges or grooved pipe mechanical joints or screwed joints.<br>……." | To suit local practice. |
| 2.114 | TB218:2004 (Page 2 of 6)<br><br>TB218:2004 (Page 6 of 6) | Figure TB218.F2 Superior supply using suction pump<br><br>Figure TB218.F6 Duplicate supplies using two suction pumps from a limited capacity tank and full capacity tank | Delete the connection for non-sprinkler installation and add Fire Service inlet connection before the installation control valve. Change description for diesel and electric pump as suction pump. Refer to Annex III for detail.<br>Delete the connection for non-sprinkler installation and add Fire Service inlet connection before the installation control valve. Change description for diesel and electric pump as suction pump. Refer to Annex IV for detail. | To suit local practice. |

## List Three : Clauses to be taken as reference only
## LPC Rules for Automatic sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Reason |
|---|---|---|---|
| 3.1 | Clause 4.1 (Page 20) | "General: The information specified in 4.3……..f) date and number of issue". | To follow FSD's procedures and requirements of relevant FSD Circular Letters. |
| 3.2 | Clause 4.2 (Page 20) | "Initial Consideration…….the hazard classification is being determined." | To follow FSD's procedures and requirements of relevant FSD Circular Letters. |
| 3.3 | Clause 4.4.4 except clause 4.4.4.3(c) (Page 25) | "Water Supply…….g) details of the means of refilling." | To follow FSD's procedures and requirements of relevant FSD Circular Letters. |
| 3.4 | Clause 9.3.3 Para. 2 (Page 48) | The outlet of any feed pipe shall be not less than 2m horizontally from the suction pipe inlet. | May not applicable to local situation. This Clause shall be taken as reference for good practice. |
| 3.5 | Clause 9.3.6 Para. 1 (Page 51) | In the case of pumps under suction lift conditions, a strainer shall be---. It shall be fitted so that it can be cleaned without the tank having to be emptied. | To suit local situation. |
| 3.6 | Clause 13.3.4.3 Para. 2 (Page 94) | "In these cases, the height difference between the highest sprinkler level and the installation pressure gauge shall be indicated on the completion certificate, together with the pressure required at the installation pressure gauge." | It is not a local mandatory requirement. |
| 3.7 | Clause 15.4 Item 1(e) (Page 114) | "e) any pipe, with the exception of drop pipes to single sprinklers in a wet installation, which cannot be drained through another drain valve." | In practice, it is difficult to adopt. |
| 3.8 | Clause 18.1.1 Para.1 (Page 122) | "A block plan of the premises shall be placed closed to a main entrance or elsewhere, where it can be readily seen by the fire brigade or others responding to the alarm." | Not required locally. |
| 3.9 | Clause 18.2.3.2 (p.123) | Fully calculated installations | Not required locally. |

## List Three : Clauses to be taken as reference only
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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Reason |
|---|---|---|---|
| 3.10 | Clause 18.2.5.2 (Page 124) | Fully calculated installations | Not required locally. |
| 3.11 | Clause 19.1.2 (Page 125) | Equipment<br>The system shall be tested ---------- on a routine weekly and quarterly basis) and any faults shall be corrected. | Testing shall follow FS (IE) Regulations. |
| 3.12 | Clause 19.2 (Page 125) | Completion certificate and documents<br>The installer ---------- and checking (see 20.2). | System certification shall follow FS (IE) Regulation and FSD's FSCoP. |
| 3.13 | Clause 20 ***<Except for clause 20.1.3 which is included in item 2.9 of List 2>*** (p.126 to 130) | Maintenance | The maintenance requirements have already been specified in FSCoP. All clauses are taken as reference for good practice. |
| 3.14 | Section 21 Clauses 21.1 to 21.2.1 (p.131) | Evaluation of Conformity | The sprinkler kit is not popular in local market. |
| 3.15 | Annex D Clause D.3.7 Para. 9 (Page 147) | Fire and Fault signals shall be indicated at a permanently manned location (see Annex I). | More practicable to local situation. |
| 3.16 | Annex F. (1st paragraphs) (Page 154) | Only one zone of a multi-zone installation shall be shut down at a time. | Shut down of installation shall follow FSD Circular Letter No. 4/1999. |

## List Three : Clauses to be taken as reference only
## LPC Rules for Automatic sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Reason |
|---|---|---|---|
| 3.17 | Annex H Clause H.1 Para. 2 (Page 163) | "All devices used for monitoring shall have at least IP54 protection as specified in EN 60529." | In local practice, the requirement of IP54 for all monitoring devices is not mandatory. |
| 3.18 | Annex J (Page 167) | The whole context of Annex J – Precautions and procedures when a system is not fully operational | The management company should work out it's own precautions and procedures when a system is not fully operational. |
| 3.19 | Annex K (Page 169) | The whole context of Annex K – Twenty-five year inspection | It is not a local mandatory requirement. |
| 3.20 | Annex L (Page 170) | The whole context of Annex L – Special technology | Informative material for reference. |
| 3.21 | Annex ZA (Page 171) | The whole context of Annex ZA – Clauses of this European Standard addressing the provisions of the EU Construction Products Directive | Informative material for reference. |
| 3.22 | TB 201:2004:1 All clauses within this section | Suitable sprinkler components and services | All components should be approved by F.S.D. before use in Hong Kong. These Technical Bulletins are to be taken as reference only. |
| 3.23 | TB 202:2004:1 All clauses within this section | Approved sprinkler equipment | All components should be approved by F.S.D. before use in Hong Kong. These Technical Bulletins are to be taken as reference only. |
| 3.24 | TB 203:2004:1 All clauses within this section | Care and maintenance of automatic sprinkler systems | System certification shall follow FS (IE) Regulation and FSD's FSCoP. |

## List Three : Clauses to be taken as reference only
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| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Reason |
|---|---|---|---|
| 3.25 | TB 204:2004:1 All clauses within this section | Sprinkler system grading | All components should be approved by F.S.D. before use in Hong Kong. These Technical Bulletins are to be taken as reference only. |
| 3.26 | Clause TB207.4.7 Para. 1 (TB207, Page 4) | "Quick response sprinklers shall be used, except that standard 'A' and special response may be used in rooms no less than 500$m^2$ in area or no less than 5m in height." | In practice, the use of quick response sprinkler in life safety system is not mandatory. |
| 3.27 | TB210 All Para. within Clause TB210.3 (Page 5 of 6) | COMMISSIONING (NO EQUIVALENT BS EN CLAUSE) | Locally, the Testing & Commissioning for fire services Installations and equipment shall be carried out by registered FSI contractors according to relevant FSD requirements. This Clause shall be taken as reference for good practice. |
| 3.28 | TB210.2.5.2 | Foot valves for pumps operating under suction lift (relates to BS EN Clause 10.6.2.1)<br>------ | To suit local practice. |
| 3.29 | Clause TB211.1 – TB211.7 (TB211, Page 1 – 6) | The whole context of TB211 – CPVC plastic pipe<br><br>**(Note : The use of this type of pipe shall be subjected to Water Supplies Department's approval)** | In accordance with the Schedule 2 Part 1 of the Waterworks Regulations, metallic piping shall be used. |
| 3.30 | Clause TB212.2.2 (TB212, Page 2) | The whole context of Clause TB212.2.2 – Non-metallic pipes and fittings including Table TB212.T2 – Specifications for non-metallic pipes and fittings<br><br>**(Note : The use of non-metallic pipe shall be subjected to Water Supplies Department's approval)** | In accordance with the Schedule 2 Part 1 of the Waterworks Regulations, metallic piping shall be used. |

## List Three : Clauses to be taken as reference only
## LPC Rules for Automatic sprinkler Installations Incorporating BS EN 12845 : 2003

| List-Item | BS or TB Clause/Paragraph/ Table/Page | Context | Reason |
|---|---|---|---|
| 3.31 | TB 213:2004:1 All clauses within this section | Upkeep and testing of multiple controls | System certification shall follow FS (IE) Regulation and FSD's FSCoP. |
| 3.32 | TB218:2004 (Page 3 of 6)<br><br>TB218:2004 (Page 4 of 6)<br><br>TB218:2004 (Page 5 of 6) | Figure TB218.F3. Duplicate supplies using selection from suction pump/pressure tank/gravity tank<br><br>Figure TB218.F4 Duplicate supplies using two gravity tanks<br><br>Figure TB218.F5 Duplicate supplies using two suction pumps from river or canal (suction lift condition) | These systems are rarely used in practice and individual approval is required. Modifications are also required which include i) delete the connection for non-sprinkler installation, ii) add Sprinkler inlet connection before the installation control valve and iii) change description for diesel and electric pump as suction pump. |
| 3.33 | TB221 | Sprinkler Protection of Schools | To suit local practice. However the addition of monitoring the status of stop valves etc. in clause TB221.2 is a good practice. |

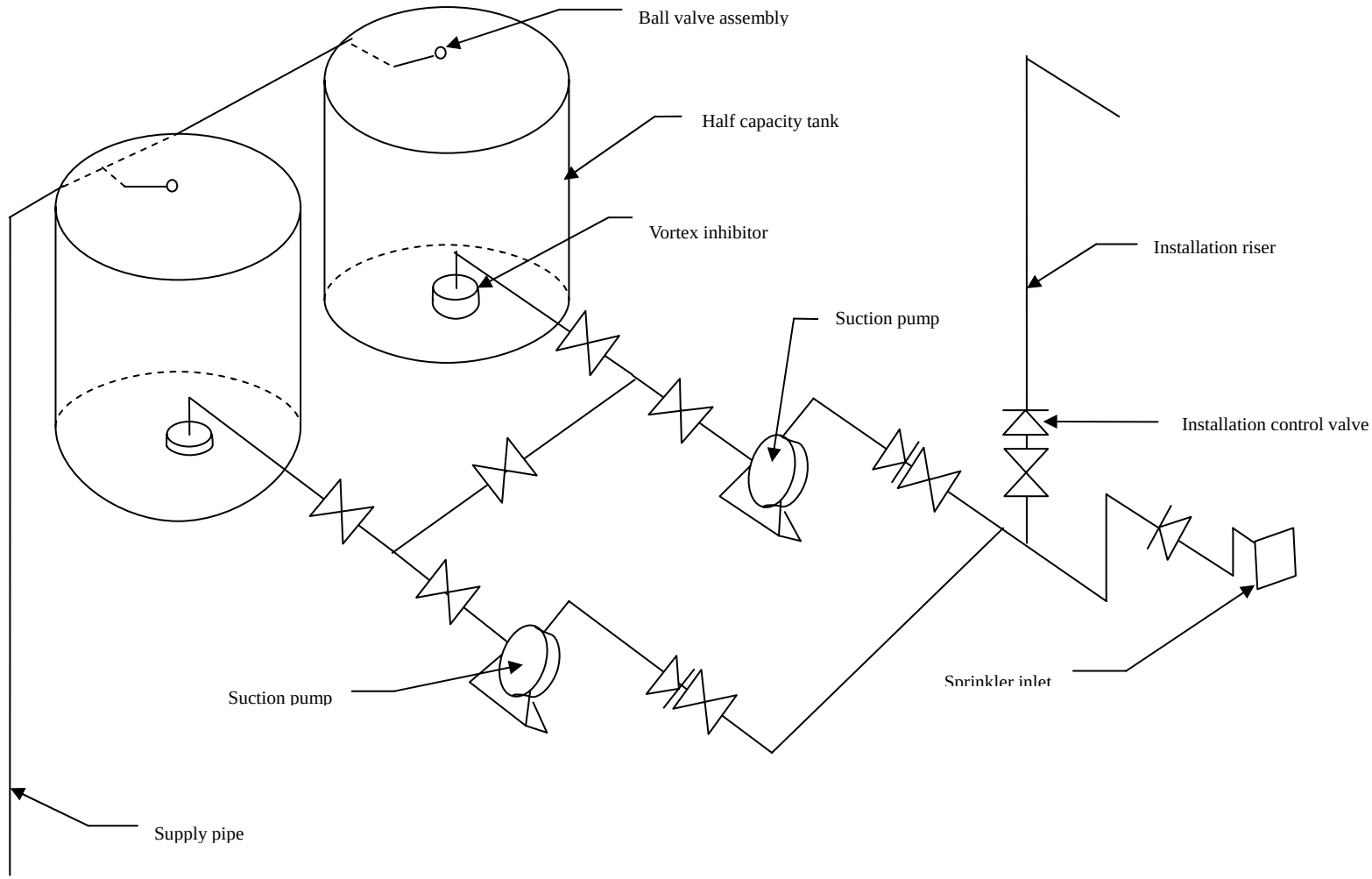


**Figure TB209.F5 Two suction pump connections to two half capacity tanks**

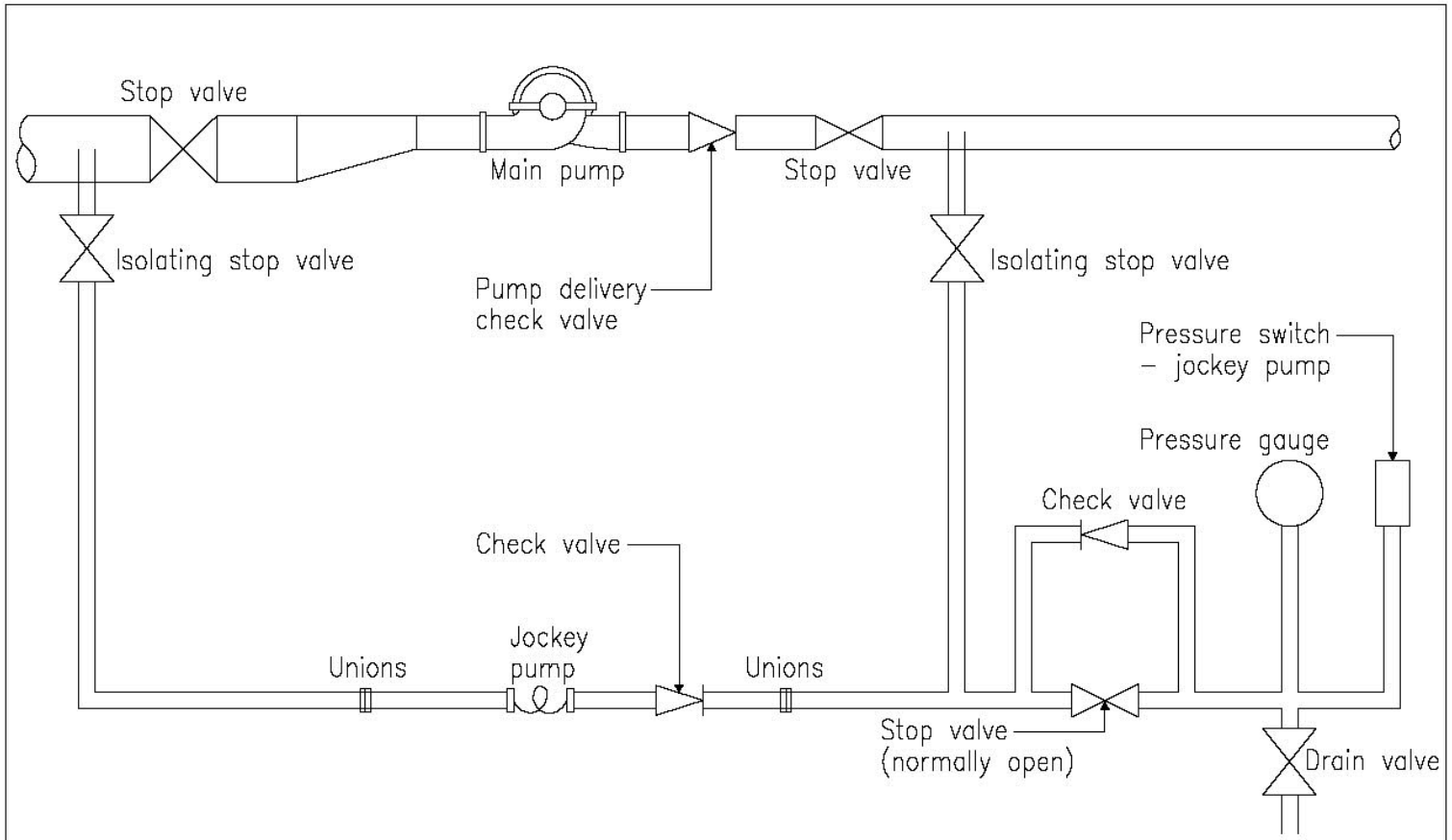


Figure TB 210.F1 Typical jockey pump arrangement

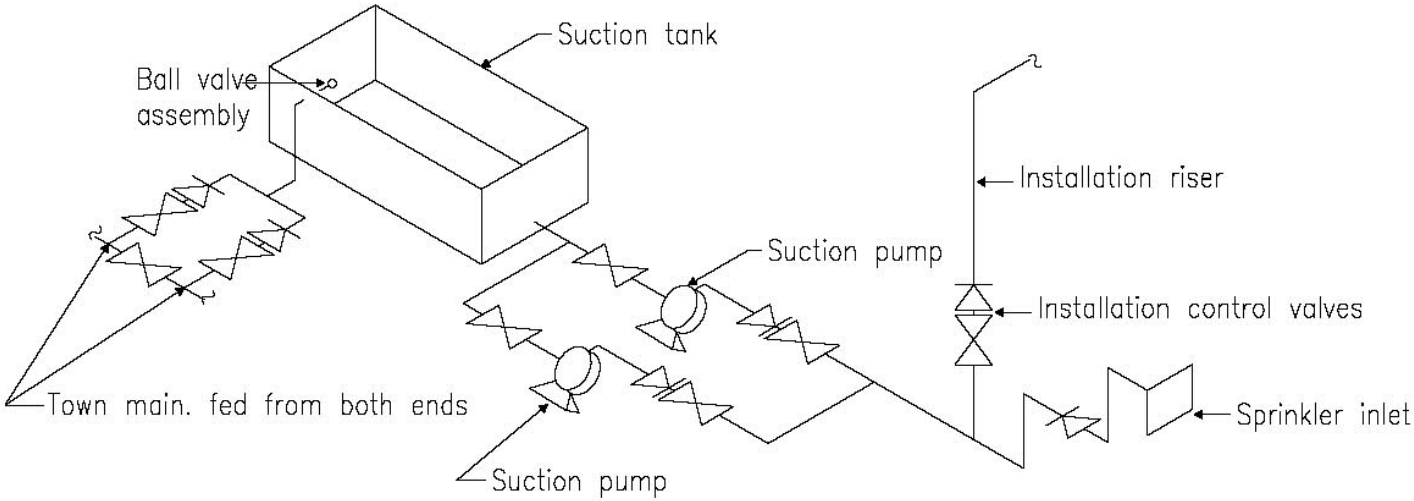


Figure TB 218.F2 Superior supply using suction pumps

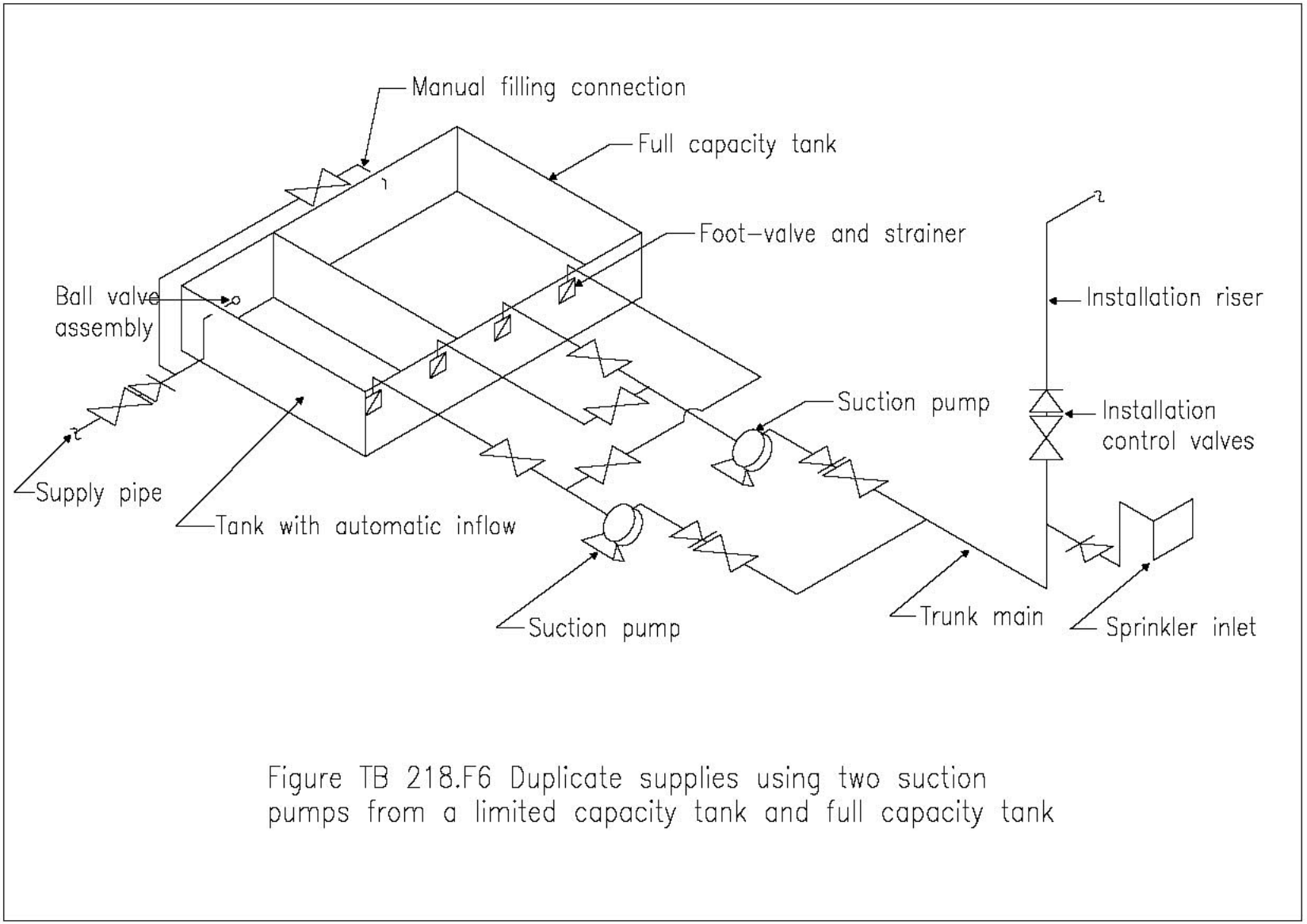


Figure TB 218.F6 Duplicate supplies using two suction pumps from a limited capacity tank and full capacity tank