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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 5135.1-2019

Replacing GB 5135.1-2003

Automatic sprinkler systems - Part 1: Sprinklers

自动喷水灭火系统 第1部分：洒水喷头

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Foreword

Chapters 6 and 8 of this part are mandatory, the rest are recommended. GB 5135 "Sprinkler System" has or plans to release the following sections.

- Part 1. sprinkler head;
- Part 2. Wet alarm valve, retarder, hydraulic alarm bell;
- Part 3. water spray nozzle;
- Part 4. Dry-type alarm valve;
- Part 5. rain alarm valve;
- Part 6. General purpose valves;
- Part 7. water flow indicator;
- Part 8. accelerator;
- Part 9. Early suppression fast response (ESFR) sprinkler;
- Part 10. Pressure switch;

--- Part 11. grooved pipe fittings;

--- Part 13. Water curtain nozzle;

--- Part 14. Pre-action device;

1 Scope

Part 1 of China's mandatory series on automatic sprinkler systems, covering the sprinkler head itself - the single most consequential fire protection product there is, because it is the only one that both detects the fire and puts it out, does so without anyone present, and has to work first time after twenty or thirty years hanging in a ceiling doing nothing. This part specifies the classification, the nominal flow coefficient, the interface threads, the colour marking, the model designation, the requirements, the test methods, the inspection rules, the instructions and the packaging, transport and storage of sprinklers. The colour marking is not decoration: the colour of the glass bulb or the yoke tells an installer and an inspector the nominal operating temperature at a glance, and fitting the wrong temperature rating in a space is one of the commonest and least visible errors in fire protection. The requirements are built around the two things that can go wrong, and they pull in opposite directions. A sprinkler that operates too readily floods a building that is not on fire, which is expensive and destroys confidence in the system. One that does not operate, or operates late, leaves the fire to grow past what the system was designed for. So the standard sets the operating temperature and its tolerance, the response time index that governs how fast the element reaches the gas temperature around it, the strength of the thermal element, and the water distribution and spray pattern the head must produce once open - together with the long list of things that must not happen over decades of doing nothing: corrosion in the ambient it hangs in, leakage at the seat, loss of the thermal element, deposits and paint. The endurance, vibration, thermal shock, water hammer and stress corrosion tests exist for that reason. Issued on 17 December 2019 and in force since 1 July 2020, it replaces GB 5135.1-2003.

This part of GB 5135 specifies the classification, nominal flow coefficient, interface threads, color markings, Model, requirements, test methods, inspection rules, instruction manuals, packaging, transportation, storage, etc. This section applies to sprinklers in sprinkler systems. This section does not apply to early suppression fast response (ESFR) sprinklers, household sprinklers, special application sprinklers and on-off sprinklers.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 7306.2 55 ° sealed pipe threads. Part 2. Conical internal and external threads