



Tail-end valve stations

Requirements and test methods

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VdS Guidelines for water extinguishing systems

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Requirements and test methods

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1 Scope

These guidelines specify requirements, test methods and performance characteristics for tail-end valve stations for the use in sprinkler systems according to VdS CEA 4001.

Note: A tail-end valve station is a dry alarm valve station without alarm device. It may be equipped with an alarm pressure switch.

Note: A tail-end valve station is installed in the vertical water supply riser of a wet-pipe sprinkler system. It separates the dry-pipe section of the system from the water-filled system. When one or more sprinkler open, the tail-end valve station releases the follow of water into the sprinkler piping network which is filled with compressed air or a suitable inert gas (e.g. Nitrogen). The water flow triggers an alarm at the corresponding wet alarm valve station. An additional alarm may be triggered by means of the alarm pressure switch at the tail-end valve station. This makes it possible to determine whether sprinklers in the wet-pipe or dry-pipe section of the system have opened.

Note: A water drain valve, pressure gauges for the water supply pressure and the air or inert gas pressure, an alarm pressure switch – if applicable –, a connection for air or inert gas supply and, if applicable, an accelerator complete a dry alarm valve to a tail-end valve station, together with the necessary connection piping.

2 Normative references

These Guidelines incorporate, by dated or undated references, provisions from other publications (e.g. European Standards EN or International Standards IEC), which are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to these Guidelines only when incorporated in them by amendment or revision. For undated references the latest edition of the publication referred to applies.

VdS CEA 4001	VdS Guidelines for sprinkler systems – Planning and installation
VdS 2100-02	VdS Guidelines for water extinguishing systems – Requirements and test methods for dry alarm valve stations with and without accelerators
EN 12259-3	Fixed firefighting systems – Components for sprinkler and water spray systems – Part 3: Dry alarm valve assemblies
ISO 7-1	Pipe threads where pressure-tight joints are made on the threads – Part 1: Dimensions, tolerances and designation
EN 1092-2 und -3	Flanges and their joints – Circular flanges for pipes, valves, fittings and accessories, PN designated
EN 764-1	Pressure equipment – Part 1: Terminology – Pressure, temperature, volume, nominal size

3 Definitions

For the purpose of these guidelines the definitions of EN 12259-3 apply.

Maximum allowable pressure: maximum pressure for which the device is designed according to the manufacturer specifications (EN 764-1).

Note: The maximum allowable pressure corresponds to the pressure specified as rated working pressure in EN 12259-3.

4 Requirements

4.1 General

4.1.1 The requirements of VdS 2100-02 for dry alarm valve stations with and without accelerators do apply with the exceptions determined in the following sections.

4.2 Exceptions

4.2.1 The connection of a non-electrical alarm device is not intended. The corresponding requirements are not applicable.

4.2.2 An alarm pressure switch does not have to be provided. If an alarm pressure switch is not provided the corresponding requirements are not applicable.

5 Test methods

5.1 Compliance test

A visual and dimensional check is made to determine whether the test samples correspond to the description in the technical documentation (drawings, parts list, functional descriptions, instructions for operation, maintenance and installation) and comply with the verifiable requirements of these guidelines.

5.2 Test of the performance characteristics

The test of the performance characteristics of tail-end valve stations is carried out in tests according to VdS 2100-02. Tests that relate to the exceptions of 4.2 only do not apply.

5.3 Other tests

Where special designs or new manufacturing methods make it necessary, additional tests will be conducted in agreement with the manufacturer.