

Sizing, Selection, and Installation of Pressure-relieving Devices

Part II—Installation

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Sizing, Selection, and Installation of Pressure-relieving Devices

Part II—Installation

1 Scope

This standard covers methods of installation for pressure-relief devices (PRDs) for equipment that has a maximum allowable working pressure (MAWP) of 15 psig (1.03 barg or 103 kPa_g) or greater. Pressure-relief valves (PRVs) or rupture disks (RDs) may be used independently or in combination with each other to provide the required protection against excessive pressure accumulation. As used in this standard, the term pressure-relief valve includes safety-relief valves used in either compressible or incompressible fluid service, and relief valves used in incompressible fluid service. This standard covers gas, vapor, steam, two-phase, and incompressible fluid service; it does not cover special applications that require unusual installation considerations.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API Standard 520, *Sizing, Selection, and Installation of Pressure-relieving Devices, Part I—Sizing and Selection*

3 Terms and Definitions

The terminology for PRDs that is used in this standard is in general agreement with the definitions given in API 520 Part I.

4 PRD Location

4.1 General

There are a number of design factors that should be considered when determining the location of the PRD.

4.2 Proximity to Protected Equipment

If other factors permit, the PRD should normally be placed close to the protected equipment or system of equipment so that the pressure in the protected equipment stays within Code allowable limits and to avoid PRV instability (see Section 7).

See 7.3.3 for guidance on establishing set pressure if PRD will be remote from the protected equipment.

4.3 Pressure Fluctuations

The PRD should not be located where there are pressure fluctuations large enough to result in relief valve simmering/activation or rupture disk fatigue. On installations that have pressure fluctuations that peak close to the set pressure of the PRV or burst pressure of a rupture disk, the PRD should be located farther from the source and in a more stable pressure region.

Examples of areas that may have pressure fluctuations include:

- locations close to control valves, other valves, and other appurtenances;
- locations close to orifice plates and flow nozzles;