1 The World of Safety Valves

In the “World of Safety Valves” and their applications we are developing LESER into a global leader who is a competent, reliable and responsive partner for its customers. Due to its worldwide activities LESER is experiencing steady growth. Commitment, Integrity and Tradition are the foundations of the company.

2 This Handbook

This handbook is an engineering handbook, short ENGINEERING. The purpose of ENGINEERING is to help understand the “World of Safety Valves”. Specifically, it explains:

- what is a safety valve
- the applications in which safety valves are used
- how a safety valve is installed
- how to size and select a safety valve
- the global standards and requirements which apply to safety valves

- ENGINEERING is intended to be a knowledge resource for the occasional user as well as the advanced user of safety valves. For this reason each chapter has the same structure: First, a general outline is given for the occasional user, this is followed by the presentation of more detailed knowledge for the advanced user.
- ENGINEERING is a reference book that can be consulted to clarify individual questions.
- ENGINEERING can be used to provide answers for trouble shooting.
- ENGINEERING can be used as the basis for technical trainings.
- ENGINEERING is the LESER statement to technical questions applicable to the complete LESER organization.

3 Use of Terminology

There is no single, agreed terminology in the field of safety valves. The terminology used to describe safety valves and their function is defined in a variety of codes and standards like ISO 4126-1, ASME Sec. VIII Div. 1, ASME Sec. XIII, ASME PTC 25, API 520 and others.
Some examples are shown below:

Term as Per ISO 4126-1	Equivalent terms as Per ASME and API
Safety valve	Pressure relief valve, safety relief valve
Flow area	Orifice area, discharge area, nozzle (throat) area, bore area, net flow area
Flow diameter	Orifice diameter
Maximum Allowable Pressure Ps	Maximum Allowable Working Pressure (MAWP)
Reseating pressure	Closing pressure

Sometimes, different codes use only slightly different definitions for the same term, in other cases, definitions vary broadly across codes and also the terms are distinct.

Within ENGINEERING the terminology of ISO 4126-1 is used whenever different terms are in use for which similar definitions exist.
The only exception to this general rule is made when the text of a code needs to be quoted literally for the purpose of conceptual distinction, e. g. to explain the difference between a Safety Valve and a Safety Relief Valve by the relevant definitions of the ASME PTC 25 code.

The definitions and distinctions of terms according to various codes and standards are found in chapter 3 “Terminology”.

4 Disclaimer

The information provided in ENGINEERING is intended for informational purposes only. It is meant to help the reader obtain an overview and gain a general understanding.
The information represents the current state of knowledge documented by the date at the bottom of each page. However, LESER does not represent or warrant that the information is accurate, complete or up to date.

Decisive for the user are the applicable codes and standards in the country or location where the safety valve is used. It is the user's responsibility to use the technical equipment described herein in accordance with the regulatory requirements of the country or location where the equipment is used. In particular, the user is responsible for using the latest editions of the codes and standards referenced herein.

The worldwide activities of LESER and LESER's customers require the supply of products and documentation that meet all national and international regulatory requirements. Although LESER's products generally meet the requirements of different codes and standards simultaneously, the relevant regulatory requirements are listed separately in each individual chapter as far as possible so that the user can identify the requirements they need to refer to in their specific case and region.

5 Edition

ENGINEERING is published on the internet as ENGINEERING Online. There is no single edition for the complete ENGINEERING. Newer editions of individual chapters or topics can be identified by the date at the bottom of each page.

ENGINEERING Online version can be downloaded from www.leser.com/engineering. Chapters or sections will be updated individually and will be ready for download as soon as they have passed LESER's internal approval procedure.
Please check regularly for latest updates, revisions and additions.

In a later stage a printed edition of ENGINEERING will be made available in form of complete chapters.

6 Contact

It is our goal to improve ENGINEERING in a continuous process. All suggestions for improvements or new topics are welcome.
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