Förhandsgranskning / Preview

Valve selection

Please refer to **SSG 0001E** – "Purpose, interpretation and application of the documents published by SSG". Text enclosed in square brackets ([…]) denotes references to Swedish regulations, encompassing any locally applicable amendments for the Swedish market only.

Scope

The purpose of this guide is to assist in the selection of valves when designing a pipe system. This guide considers different valve types, valve functions and parameters that are important to consider when selecting a valve.

The guide forms a bridge between **SSG 7650E** – "Piping – recommendations for the selection, classification and inspection of materials and components" and **SSG 7531E** – "General technical requirements for valves".

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1 Terminology

CIP (Clean in Place) – is a method for cleaning equipment where cleaning is carried out without dismantling the equipment.

Differential pressure (ΔP) – the pressure difference after the valve and before the valve.

Free from dead spaces – free from dead spaces where the process medium may become trapped.

Cavitation – bubbles that implode as the pressure increases.

Critical pressure drop – the pressure in the process medium drops to such an extent that vapour bubbles/gas bubbles form. These bubbles collapse/implode when the pressure subsequently increases.

Laminar flow – a smooth and orderly flow in which a liquid or gas moves in parallel layers without mixing.

Trim – the internal, replaceable valve components that are in direct contact with the process medium and which control, throttle or shut off the flow.

Turbulent flow – a chaotic, swirling flow in which a liquid or gas mixes intensively and moves irregularly.

K_v -value – the flow capacity of the valve at 1 bar pressure and 20°C water 1,000 kg/m^3. C_v value = K_v value x 1.156.

2-phase calculation – a calculation involving two phases or media, such as water and steam.

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