

Press Release

Control valve range expanded with the GS4 series

Sliding gate valves now available up to a nominal pressure of 160 bar

Sliding gate-control valves are handy, compact, light and ultra-precise. They control liquid, vaporous and gaseous media in a precise, fast and economic manner. The heart of all sliding gate valves are two slotted discs sliding and sealing against each other. The fixed disc which is secured in the housing perpendicular to the direction of flow has a certain number of transverse slots. The second non-rotating disc with the same slotted arrangement is moved vertically against the first, thus changing the flow cross-section. The applied pressure difference forces the moving disc against the fixed disc. Consequently, the sliding gate valve seals without the need for a metal seat.

These excellent design characteristics can also be found on the new GS4 sliding gate valve range which is specifically optimised for higher pressures. Depending on the size, the GS4 range is available in nominal pressures

- of PN 160 (ANSI 900) up to a nominal size of DN 80,
- of PN 100 (ANSI 600) up to a nominal size of DN 150

The operating temperature range amounts to between - 200 °C and + 530 °C. In addition to stainless steel 1.4571 as the standard body material, special alloys such as Hastelloy, Inconel, Duplex or Super Duplex are optionally available.

Comparable to the GS1 to GS3 series, the sliding gate valves of the GS4 series are also characterised by an extremely small and compact design complete with a comparably low weight. The PN 100 GS4 valve with a nominal size of DN150 including the actuator and positioner only weighs 200 kg. A comparable traditional globe style valve weighs approximately 400 kg. This weight advantage not only reduces the required installation space; it is also noticeable in terms of material use and easier handling.

As a result of the seat arrangement that is guided perpendicular to the flow, sliding gate valves from all series only require low actuation force in order to operate. For instance, the sliding gate valve with a nominal size of DN 150 only requires a diaphragm actuator with a membrane size of 1,500 cm² in order to manage a differential pressure of 100 bar. Compared to a traditional globe valve, this equals only a tenth of the actuation force.

The low actuating force is also noticeable when dealing with extremely low strokes of max. 8.8 mm with a significantly lower compressed air requirement. In combination with a Type 8049 digital positioner, no compressed air is used when in the controlled state. Due to the lower stroke, max. actuating times of 2 seconds are possible for a complete stroke movement.

Two material combinations are available for the seat set. The moving disc can either be manufactured from a cobalt-chrome based hard alloy (Stellite®) or be equipped with an SFC carbon coating (Slide Friction Coating). The selection of the suitable material pairing for these sealing discs depends on many factors. In addition to the friction coefficient that has an immediate impact on the level of the required actuation force, leak rates, chemical resistance, suitability for high differential pressures, edge stability as well as a possible cavitation operation are also decisive parameters. Furthermore, the desired service life and the costs for spare parts must also be taken into consideration when making the selection. The Schubert und Salzer Control Systems specialists are happy to assist you in making this selection.



Figure: The new sliding gate valve from the GS4 range for higher operating pressures: Here, a DN 150 valve for PN 100 weighing only 200 kg

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Contact:

Schubert & Salzer Control Systems GmbH
PO Box 10 09 07, D-85009 Ingolstadt, Germany
Telephone: +49 (0)841 9654 0
Fax: +49 (0)841 9654 590
marketing@schubert-salzer.com
www.schubert-salzer.com