

## RS350S, pilot operated gas pressure regulator with unique design

Wigersma & Sikkema is an independent high-tech enterprise whose head office is in The Netherlands. The focus is on the international market for the distribution and transportation of natural gas. The company develops, produces and sells a range of products for measuring, regulating, testing and inspection services. Products are gas pressure regulators, volume correctors and communication equipment, and the PLEXOR® inspection system for gas control lines. (PLEXOR® was discussed in the previous version of RevijaPlin).

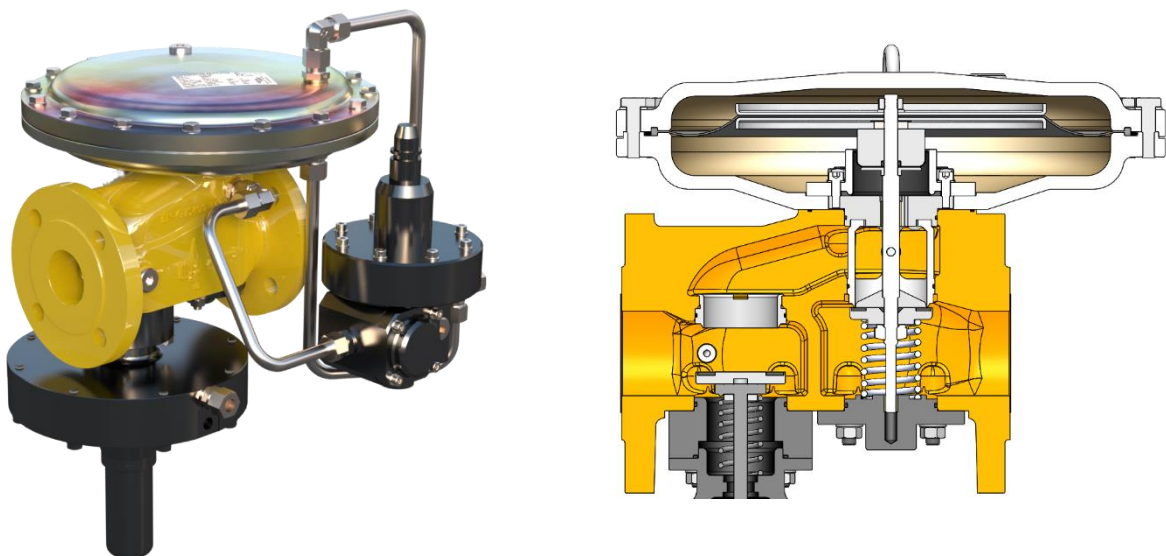
In the 1960's the company started the production of gas pressure regulators. At the time under license agreement. Mid-seventies the first own regulator was developed; the RS250S. This was a pilot operated gas pressure regulator, aimed specifically at the Dutch gas distribution market. The successor product, the RS300S, was developed in 1996. The RS300S is now a market leader in the Dutch gas distribution market.

The latest development is the RS350S gas pressure regulator. It specifically offers short response times, high accuracy and stability over a wide flow and pressure range. What sets this regulator further apart from others is its unique and patented insert. The regulator has German DVGW approval for PN16 application, and is sold worldwide.

### RS350S Gas Pressure Regulator

The pilot has an integrated control system. Because of this the RS350S regulator maintains a stable outlet pressure at varying inlet pressures.

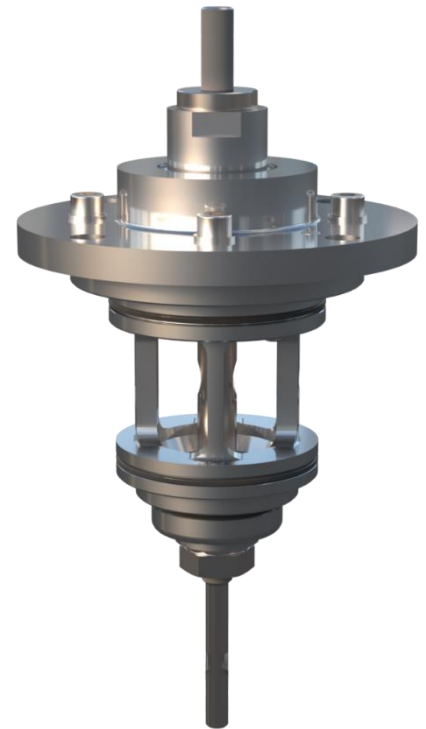
Thanks to its excellent dynamic properties, the RS350S regulator can be used in both distribution stations and industrial installations. The RS350S regulator is manufactured in-house in the Netherlands. This, together with the modular design, results in short delivery times. The RS350S is factory-fitted with a slam shut valve that can be equipped with automatic trip detection. The pressure regulator is designed for "plug & play" installation and delivered with customer-specific settings.



## Innovative insert

The new innovative insert integrates the valve, the valve seat and roller diaphragm into one easy-to-replace module. Maintenance of the pressure regulator and/or change of  $K_G$  value can be carried out easily. In addition, the insert can be set-up at the factory so that fit and function is guaranteed on site. The insert can be changed within 15 minutes. The RS350S regulator is available with 5 different valve sizes so that a  $K_G$ -range from 185 to 1250 Nm<sup>3</sup>/h is covered with the DN50 version.

High quality components are used to ensure corrosion protection. The use of these components significantly extends the lifespan of the pressure regulator. The RS350S regulator can be used without maintenance, depending on the application, for a period of 10 years.



Innovative insert

All this results in several features and benefits:

- When changing the insert, the gas control line is only a quarter of an hour out of operation
- Fit and function of the insert can be set-up at the factory/offline
- Only a limited number of spare inserts required for maintenance instead of a full range of parts
- Changing the  $K_G$  value can be done by just changing the insert and is therefore relatively inexpensive
- The insert can be overhauled by Wigersma & Sikkema (circular)
- Inlet pressure independent
- High accuracy and stability
- “plug & play” installation
- Low noise level

## Specifications:

|   | Pd ≥ 50 mbar | Pd < 50 mbar | Unit |
|---|--------------|--------------|------|
| <b>Default values</b>   |              |              |      |
| Accuracy class AC (EN 334)  | 2,5          | 5            | %    |
| Lock-up pressure group SG (EN 334)  | 5            | 10           | %    |
| Hysteresis  | < 0,4        | < 1          | %    |
| Lock-up pressure zone SZ  | < 1          | < 1          | %    |
| Outlet pressure drift at Qmax when varying inlet pressure from 8 to 1,5 bar | + 0,5        | + 1          | %    |
| <b>Starting time</b>  | < 0,2        | < 0,2        | s    |
| <b>Opening time from 0-100% valve stroke</b>                                | < 2          | < 2          | s    |
| <b>Closing time from 100-0% valve stroke</b>                                | < 1          | < 1          | s    |
| Overshoot at valve stroke of 100-0% within the closing time                 | < 10         | < 20         | %    |
| Undershoot with valve stroke of 0-100% In 10 s within the opening time      | < 10         | < 20         | %    |
| Initial gas velocity at the outlet flange                                   | < 150        | < 150        | m/s  |
| AC overpressure with safety shut-off valve                                  | 2,5          | 5            | %    |
| AC underpressure with safety shut-off valve                                 | 10           | 20           | %    |
| <b>Extended specifications for option AF*</b>                               |              |              |      |
| Closing time of 100-0% valve stroke   | < 0,5        | < 0,5        | s    |
| Overshoot at valve stroke of 100-0% within the closing time                 | < 10         | < 10         | %    |

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