

PLEXOR[®]

Inspection system for pressure regulating stations

Wigersma
& Sikkema



Safe operation



Paperless



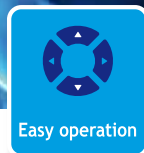
Cost saving



Condition Based
Maintenance



Man
independent



Easy operation



Reporting



Environmental
friendly

The PLEXOR® inspection system

With the PLEXOR® inspection system Wigersma & Sikkema has set a new standard to inspect gas pressure regulating stations. The PLEXOR® inspection system consists of 3 main parts:

1. PLEXOR®, the mobile test device
2. CONNEXION software suite
3. System Couplings

The PLEXOR® mobile test device is connected to a gas pressure regulating station by means of safe system couplings. These patented system couplings are permanently installed on the measurement- and test positions of the pressure regulating station. No gas can escape when the PLEXOR® device is being connected or disconnected, and the system couplings automatically revert to their original operating position following disconnection. The system couplings each have their own diameter and thread. It is therefore impossible to make mistakes when connecting the flexible hoses. With the help of the PLEXOR® inspection system the required inspections can be performed by a single qualified inspector.

With PLEXOR® the main components of a gas pressure regulator station can be tested separately, like the inlet valve, the safety shut-off device (min. and max.), the gas pressure regulator, the regulator pilot, the safety relief valve, and the outlet valve. Because of the measurement frequency of 10 Hz a detailed, dynamic and complete graphical overview of the status of these components is obtained, enabling Condition Based Maintenance.

The PLEXOR® inspection system comes complete with the CONNEXION software suite which consists of the following modules:

MANAGER

This module is used (by management) to manage the gas station data, rejection boundaries and test procedures. Inspection procedures can be established for each type of pressure regulator station and can be completely tailored to incorporate the existing inspection procedures (incl. visual inspection of the pressure regulating station).

By using the open XML interface the PLEXOR® inspection system can be easily linked to any datamanagement system such as SAP, Maximo, K3V or MainT. When the connection is made an automatic exchange of information about the components in the gas station, type of gas station and the inspection procedure can be made.

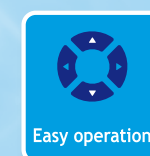
INSPECTOR PDA/PC

This module is used by the inspector in the field and is available either on a PDA or laptop/tablet (PC). It leads the inspector step-by-step through all the actions, in the sequence established for the gas station. The results of the functional inspection of the pressure regulating station are stored in a PDA, laptop or tablet for further processing. The data is transmitted wirelessly, without the intervention of the inspector, thereby preventing any key-in errors. The inspector enters the results of the visual inspection of the gas station, with the aid of unequivocal codes.

DIAGNOSTICS

This module is used by the maintenance manager. It provides accurate graphical representation of the measurement data. This provides insight into the condition of the various components of the pressure regulating station. With such data an accurate inspections and maintenance plan can be made based on condition based maintenance: "If it aint broke, don't fix it!"

Using our many years of experience we also offer you the service of analyzing your inspection results and providing you with our expert advice with regards to maintenance and repair.



PLEXOR® features and benefits

Safe:

The system meets the ATEX 95 equipment directive. Only high quality materials and components are used, connection hoses have dual locking and cannot be interchanged. Gas trapped in the connection hoses and the inspection system is automatically vented to a safe location outside at the end of the inspection.

Paperless:

Generated measurements are automatically stored on the PDA, laptop or tablet of the inspector. From there the data is automatically transferred to the host system. None of these steps require any paperwork, eliminating human error and duplication.

Cost saving:

PLEXOR® enables fast, highly efficient, standardized and objective inspection of the gas pressure regulator stations. Many users have been able to significantly reduce the number of inspections required. Furthermore significant savings on repairs and maintenance expenditures are possible, especially when switching to condition based maintenance. Experience has shown that the system can typically pay for itself within 3 years. We can help you to calculate a customer specific business case in which the savings using our system are compared with the investment which is required to implement it.

Man independent:

The PLEXOR® inspection system leads the inspector step-by-step through the test procedure. It is therefore not possible to forget or skip any part of the test. Pressure increases or decreases are standardized and therefore generate man independent and reproducible results.

Condition Based Maintenance:

Comprehensive and accurate test data is generated during the test procedure. This data can be used for detailed analysis and gives a clear insight in the static and dynamic performance of the various components in the gas control line. The inspection data can immediately be compared with the test results from previous inspections. This allows for Condition Based Maintenance, giving you the opportunity to optimize and further save on maintenance costs.

Easy operation:

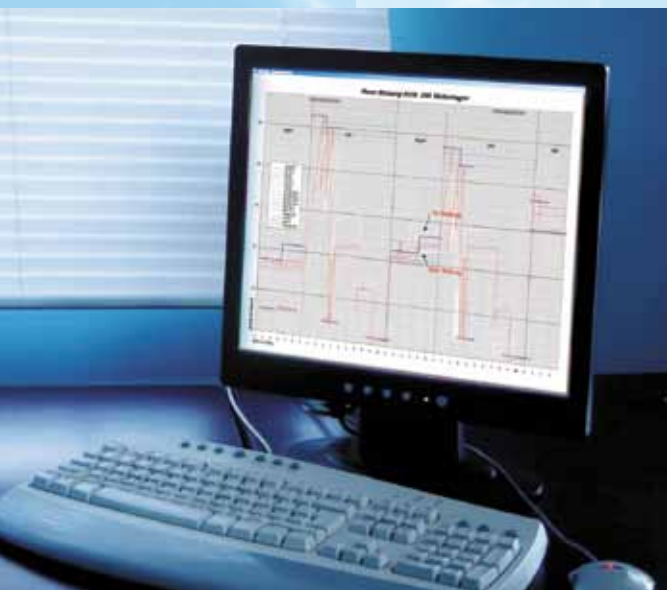
PLEXOR® is very easy to work with. The connection hoses are connected manually via a double secure "click" system and designed so they cannot be mixed up. Operation of PLEXOR® is simple, and the inspectors are guided step-by-step through the inspection procedure, by the INSPECTOR PDA/PC.

Reporting:

Upon completion of the test procedure a PDF report can be generated representing the actual measurement results and the rejection boundaries. The lay-out of the report can be easily tailored to your needs, and printed on your letterhead. This provides an independent and auditable proof of the inspection results.

Environmental friendly:

The PLEXOR® inspection system isolates the gas control line which eliminates the need to increase the pressure in the outlet section. Therefore there is no need for (multiple) releases of gas in the outlet section. Methane, the main component of natural gas, is 25 times more potent in terms of climate change than carbon dioxide.



Specifications

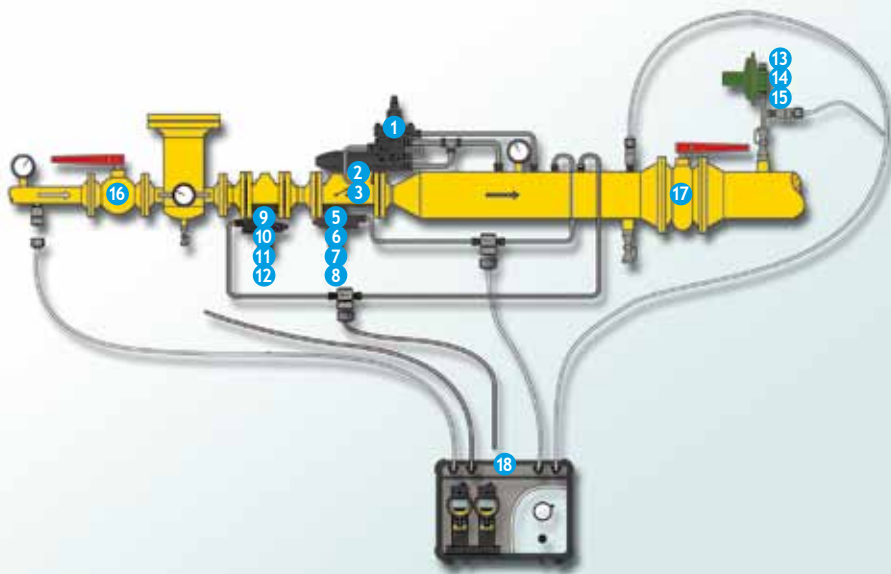
Working pressure	20 mBar - 100 bar / 8 inH ₂ O-1450 PSI
Designed according to	EN14382
IP classification	IP67
Explosionproof	AtEx II 2 G EEx ia IIC T3/4
Integrated wireless interface	AtEx II 2 G EEx ia IIB T3
Zone division	Zone 1
Stainless steel connection hoses	2* 3 meters PN 100 1* 5 meters PN 100
Plastic connection hose (ventilation)	1* 10 meters PN 10

Wigersma & Sikkema B.V.
Leigraafseweg 4
NL - 6983 BP Doesburg
The Netherlands

T +31 (0)313 471 998
F +31 (0)313 473 290
E info@wigersma-sikkema.com
I www.wigersma-sikkema.com



Product video



What functional tests can the PLEXOR® test device carry out?

1. The set point of the gas pressure regulator
2. The lock-up pressure of the gas pressure regulator
3. The leak-tightness of the gas pressure regulator at the lock-up pressure
4. The set points of gas pressure regulators in monitor set-up (not shown)
5. The trip pressure (maximum value) of the main safety device
6. The trip pressure (minimum value) of the main safety device
7. The internal leak-tightness of the main safety device
8. The leak-tightness of the diaphragm of the main safety device
9. The trip pressure (maximum value) of the second safety device
10. The trip pressure (minimum value) of the second safety device
11. The internal leak-tightness of the second safety device
12. The leak-tightness of the diaphragm of the second safety device
13. The trip pressure of the pressure relief valve
14. The lock-up pressure of the pressure relief valve
15. The leak-tightness of the pressure relief valve
16. The leak-tightness of the inlet valve
17. The leak-tightness of the outlet valve
18. The leak-tightness of the PLEXOR® test device itself