

CONNEXION[®] RESULTS

CONNEXION[®] RESULTS

Wigersma
& Sikkema



Table of contents

Preface.....	3
1 Introduction.....	4
1.1 The CONNEXION® software package	4
1.2 The MANAGER module.....	4
1.3 The INSPECTOR module.....	5
1.4 The DIAGNOSTICS module	6
1.5 The COMMUNICATOR module	7
1.6 The RESULTS module	8
1.7 System integration with business management systems.....	9
Definitions	10
2 Scope of supply, identification.....	11
3 RESULTS.....	12
3.1 Screen setup	12
3.1.1 Main screen.....	12
3.1.2 System Settings	15

All rights reserved.

Copyright © 2019 Wigtersma & Sikkema B.V.

All the figures and descriptions in this installation, operating and maintenance manual have been compiled only after careful checking. Despite this, however, the possibility of errors cannot be completely eliminated. Therefore, no guarantee can be given for completeness or for the content. Also, the manual cannot be taken as giving assurance with regard to product characteristics. Furthermore, characteristics are also described that are only available as options.

The right is reserved to make changes in the course of technical development. We would be very grateful for suggestions for improvement and notification of any errors, etc.

With regard to extended product liability the data and material characteristics given should only be taken as guide values and must always be individually checked and corrected where applicable. This particularly applies where safety aspects must be taken into account.

Support can be provided by the authorized Wigtersma & Sikkema B. V. distributor in your area or directly by Wigtersma & Sikkema B.V. The address is printed on the back of this manual or simply enquire Wigtersma & Sikkema B.V.

Passing this manual to third parties and its duplication, in full or in part, are only allowed with written permission from Wigtersma & Sikkema B.V.

Preface

This manual provides important information on the use of the CONNEXION® software. Please read this manual carefully.

Various remarks and warnings in this manual are marked with symbols. Read these carefully and take measures where necessary.

The symbols used have the following meaning:



REMARK

Suggestions and recommendations to make tasks easier.



NOTE

A note draws user's attention to potential problems.



WARNING

If the procedure is not carried out correctly, a dangerous situation may develop, or data or settings may be lost.

<p>The guarantee becomes invalid if the product described here is not handled properly, repaired or modified by unauthorized persons or if replacement parts are used which are not genuine parts from Wigtersma & Sikkema B.V.</p>

1 Introduction

1.1 The CONNEXION® software package

The PLEXOR® inspection system for pressure regulator stations consists of three main parts: the portable PLEXOR® test device, the CONNEXION® software package and the system couplings.

With the portable and easy to handle PLEXOR® test device the performance of the main components of a pressure regulator station is meticulously tested. Reliable quantitative inspection results are achieved.

The PLEXOR® test device is connected to the pressure regulator station by means of specially designed safe measuring and diagnosis couplings that are permanently installed in the pressure regulator stations.

The inspection results obtained out of the above functional inspection of the pressure regulator station are automatically stored in a hand-held personal computer (PDA) or laptop/tablet without any specific action by the inspector being required.

The results of the visual inspection are entered manually. In this way, the condition of the installation is exactly recorded.

In the CONNEXION® software package the specific procedures used for performing visual and functional inspections can be entered.

The CONNEXION® software package as a whole consists of four complementary modules: MANAGER, INSPECTOR, COMMUNICATOR, RESULTS and DIAGNOSTICS. A demo version of the DIAGNOSTICS module is supplied as a standard.

Main characteristics:

- It has been developed to be used in combination with the PLEXOR® test device.
- It performs inspections in a highly automated way on the basis of procedures already in use.
- It renders a high degree of uniformity and efficiency in the performance of inspections.
- It is suitable to perform functional inspections of components. The identity and other data of components can be registered.
- Its operation-oriented (not component-oriented) structure guarantees a smooth integration with existing business management systems.

1.2 The MANAGER module

MANAGER is intended as a tool to organise the CONNEXION® software package and to deal with inspection procedures, pressure regulator station data and rejection boundaries.

Main characteristics:

- Company-specific inspection procedures and methodologies can be entered.
- There is sufficient capacity to control dozens of units from the INSPECTOR module.
- It manages the essential data of the PLEXOR® test device, such as serial number, Bluetooth address and calibration date.
- It manages the file locations for data exchange by the COMMUNICATOR module between INSPECTOR, MANAGER and a business management system, if any.

1.3 The INSPECTOR module

INSPECTOR is intended to be used by the inspector in the field. The software will guide the inspector through the mandatory procedure. The measuring data collected in the test are shown on screen on a real-time basis.

Main characteristics:

- It guides the inspector through the inspection procedure in a simple way. As a result, the inspections are fully reproducible.
- It assists the inspector in the performance of the inspection procedure by means of auxiliary texts. Inspection procedures can be set up per type of pressure regulator station.
- It represents the status of inspections in the list of pressure regulator stations and gas control lines.
- Clear-cut input by making use of condition codes, option lists and check lists.
- Simple user interface and a touch screen for the operation of INSPECTOR.
- The results from the inspection of a gas control line are stored automatically and without specific action needed from the inspector. The inspector only needs to enter the results of the visual check manually by means of the keyboard.
- Measurements that are carried out during tests with the PLEXOR® test device are initiated by INSPECTOR. That considerably simplifies the execution of an inspection.
- The actual gas pressure is displayed on a real-time basis.
- Data are stored by INSPECTOR on an SD card (PDA) or hard disc (laptop/tablet).
- The inspection results are labelled with time and date stamp.
- The inspection results are labelled with the identity of the PLEXOR® test device and the digital manometer or manometers with which the results have been obtained (traceability).
- Representation of the inspection results of previous and present inspections is possible.
- Inspection results are compared against the rejection boundaries that have been entered. In case of rejection it is reported and, after the inspection procedure has been completed, the inspection can be repeated.
- Software setup, inspection procedures, pressure regulator station data and rejection boundaries cannot be modified with INSPECTOR. Alterations can be made by means of the MANAGER module.

1.4 The DIAGNOSTICS module

By using DIAGNOSTICS selections can be made of the measuring data obtained from functional inspections.

DIAGNOSTICS will import the selected data and present these graphically in the form of a condition diagram.

This graphical drawing provides insight into the condition of a pressure regulator station, a gas control line or a component.

Main characteristics:

- The measuring data can easily be imported.
- The selected measuring data can be graphically presented. The graphical representation provides valuable information on the performance of components.
- Condition diagrams at different points of time can be presented in a graph (a trend graph). Such a trend graph in a simple way enables trend analyses to be made of the condition of a component or group of components. Condition diagram and trend graph can be selected on the basis of date.
- The condition diagrams of gas control lines of a pressure regulator station can be combined into a graphical drawing. With this function the performance of the gas control lines of a pressure regulator station can be compared against each other.
- Presentation of rejection boundaries and standard values in a condition diagram.
- Possibility to import and apply rejection boundaries that are laid down for a gas control line.
- Extensive zoom function.
- Memory of data for condition and trend graphs in Oracle® or Microsoft® Access database format.

DIAGNOSTICS allows for selecting and importing data for condition diagrams and trend graphs on the basis of various selection criteria. These determine which measuring data are stored in the DIAGNOSTICS database as input for condition or trend graphs.

Example:

At a measurement of the maximum actuating pressure of a safety valve device it is defined that the measuring data shall be saved in the database from 20 seconds before till 5 seconds after triggering of the safety device.

The required data are selected from the relevant measuring data.

As in each inspection procedure specific inspection operations are involved, the selection criteria can be prepared as per inspection procedure.

1.5 The COMMUNICATOR module

The COMMUNICATOR module is used for the synchronisation of data between INSPECTOR, the various applications and the databases.

This module is also used for the synchronisation of data between the business management system and the PLEXOR® inspection system for pressure regulator stations.

Main characteristics:

- Synchronisation of data between INSPECTOR, the various applications and the databases.
- It can be installed separately.
- Input and output files in XML and/or ACCESS format can be used for data of pressure regulator stations and for inspection results.
- Information on INSPECTOR is shown in the COMMUNICATOR synchronisation screen, such as:
 - INSPECTOR software version (INSPECTOR PDA/PC)
 - serial number (INSPECTOR PDA/PC)
 - Battery status (INSPECTOR PDA)
 - Memory status (INSPECTOR PDA)
 - Processor type (INSPECTOR PDA)
- Status report on the synchronisation.
- Automatic synchronisation after the PDA has been connected to the desktop PC.

1.6 The RESULTS module

The RESULTS module allows for direct selection of a specific gas pressure regulating station and easy access to all relevant functional- and visual inspection results. The module also enables storage and printing capabilities of these results. The RESULTS module is supplied with standard reports which can be tailored to customer specific requirements, e.g. adding the company logo. Next to the functional inspection results also the rejection boundaries per measurement are shown. Measured values that are outside the rejection boundaries are marked and indicated with a different color.

Main characteristics:

- Multi language
- Easy selection of a specific gas pressure regulating station
- A consolidated overview of the visual and functional inspection protocols
- Selection of the visual and functional inspection protocols based on a date range
- Functional inspection result analysis of measured values that are outside the rejection boundaries
- Printing and storage capabilities of the visual and functional inspection protocols

1.7 System integration with business management systems

CONNEXION® can be used in combination with all business management systems.

Thanks to this system integration the pressure regulator station data and the inspection results can be exchanged between the business management system and CONNEXION®.

The file format used is XML (eXtensible Markup Language). XML Scheme Definition files (XSD) are available for a clear-cut description of the setup and information of the XML files.

The use of XML and XSD files relatively simplifies the system integration of CONNEXION® into a business management system.

As an option, the objects and related measuring points can be included in the inspection procedure.

As a result, the software for maintenance management can easily recognise the results of a certain measuring point.

Definitions

Microsoft® ActiveSync®: PC. or Microsoft® Mobile Device Centre:	Program for establishing a connection between the PDA and the desktop PC. When the connection is established, data can be synchronized.
Manage:	Create, open, store, modify, copy, move and remove data, including alterations of file locations.
Condition code:	Customer-specific code used by the recording of the inspection results.
CONNEXION®:	Software package that consists of the modules MANAGER, INSPECTOR, COMMUNICATOR, RESULTS and DIAGNOSTICS. A demo version of the DIAGNOSTICS module is supplied as a standard item.
Check list:	List with condition codes; for each condition code it is shown whether it complies with the requirements, or not.
Inspector:	Person who performs inspections.
Inspection:	A verification by a procedure performed with the aim to establish and assess the condition of a pressure regulator station.
Inspection procedure:	Procedure to carry out an inspection.
Inspection result:	Result of an inspection.
Dropdown menu:	List which allows only one option to be selected.
Manager:	Person who is in charge of the data of CONNEXION® and who takes care of the coupling between pressure regulator stations, gas control lines and inspection procedures.
Measuring data:	Collected data achieved in the measurement. The measuring data are used in two ways: 1. to determine the inspection results by INSPECTOR, 2. to represent the condition diagrams.
Measurement:	Pressure reading in the functional test by means of the PLEXOR® test device.
Option list:	List that presents a number of condition codes, the inspector indicating, which condition code and/or codes apply.
PDA:	Personal Digital Assistant (hand-held personal computer).
Script command:	Specific part of an inspection procedure. An inspection procedure is sequentially performed according to a script. A script consists of a number of script commands.

2 Scope of supply, identification

CONNEXION® comprises:

CONNEXION® software delivery

This contains the MANAGER, INSPECTOR, COMMUNICATOR, RESULTS and DIAGNOSTICS software package.


DIAGNOSTICS is installed as a demo version and can be activated and registered later by means of a code, if preferred.

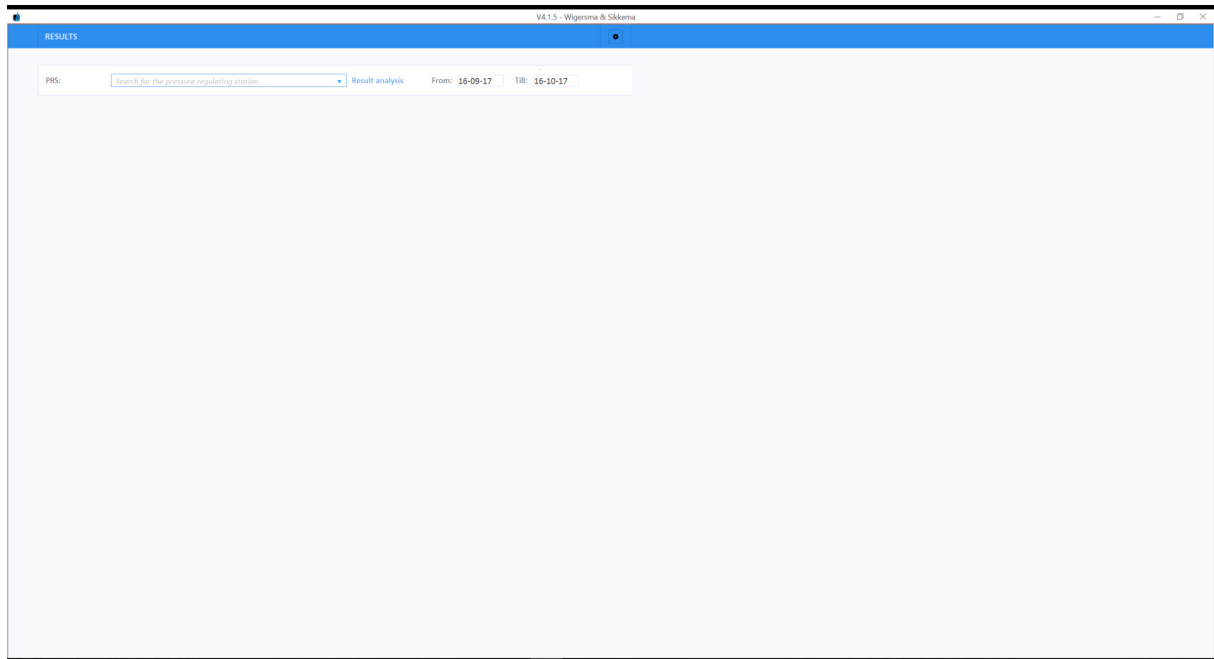
The INSPECTOR module is supplied as a robust and explosion-proof hand-held computer (zone 2 in conformity with ATEX Ex II 3G EEx nL IIC T4) or can be installed on a laptop/tablet.

3 RESULTS

The RESULTS module provides insight into the collected measurement results.

3.1 Screen setup

The RESULTS main screen is simple and clearly structured. Via the  symbol, the system settings menu can be selected. By default, the date range is set from today to one month back. In this period, pressure regulating stations with inspection results can be selected. Per selected station, the available visual and functional inspections are displayed.



Main screen of RESULTS.

3.1.1 Main screen

- *PRS: Search for the pressure regulating station*
 - Via the down arrow, all available stations are displayed.
 - When entering a (part of the) name of the station, only these stations are displayed.

PRS: [Result analysis](#) From: 01-01-2016 Till: 16-10-2017

* Aesch Belreba Kunde - 155 500/650/700
* Aesch Schlattweg - 1101
Aesch Schlattweg Kunde - 101 100/150/200
* Allschwil Behälter Hegenheimermattweg - 1506
* Allschwil Gärtnerei Hess Kunde - 96 50/75/100
Allschwil Parkallee - 1507
* Allschwil Schönenbuchstr. Kunde - 98 22/50/80
Allschwil SUVA Kunde - 45 100/160/200
* Arlesheim Curlinghalle - 1545
* Arlesheim GVM - 1503
* Arlesheim Holle Kunde - 35 22/40/60
* Arlesheim Schulhaus Gerenmatte Kunde - 012 100/150/200
* Arlesheim Würth Kunde - 48 30/50/70

The pressure regulating stations selection screen.

The required station can be selected. If a station is selected, the available visual and functional inspections will be displayed.

PRS: [Result analysis](#) From: 01-01-2016 Till: 16-10-2017

Visual inspections

Date / Time:	Visual inspection protocol:	Version:	PRS code:
04-03-16 / 09:08:19	Inspektionsbericht nach DVGW-Arbeitsblatt G 495	1.0	Open report...
02-03-16 / 10:07:41	Inspektionsbericht nach DVGW-Arbeitsblatt G 495	1.0	Open report...
08-04-15 / 14:23:39	Inspektionsbericht nach DVGW-Arbeitsblatt G 495	1.0	Open report...
08-03-13 / 13:18:04	Inspektionsbericht nach DVGW-Arbeitsblatt G 495	1.0	Open report...
21-03-12 / 09:32:59	Kamstrup AS PN16 (ohne Whu)	1.0	Open report...

Functional inspections

Date / Time:	Gas control line:	GCL identification:	Visual inspection protocol:	Version:
* 04-03-16 / 10:07:04	Umgang	1503-U	Kamstrup Umgang mit SAV	1.0 Open report...
* 04-03-16 / 09:44:57	Betriebsschiene	1503-BS	AS PN16 (ohne Whu)	1.0 Open report...
* 04-03-16 / 09:43:08	Betriebsschiene	1503-BS	AS PN16 (ohne Whu)	1.0 Open report...
* 04-03-16 / 09:14:44	Betriebsschiene	1503-BS	AS PN16 (ohne Whu)	1.0 Open report...
* 02-03-16 / 14:28:15	Umgang	1503-U	Kamstrup Umgang mit SAV	1.0 Open report...

The available visual and functional inspections screen.

Open report...:

Via this option, the required visual or functional inspection protocol can be selected. Visual inspections can be sorted by *Date/Time*. Functional inspection protocols can be sorted by *Date/Time* and/or by *Gas control line*.

The RESULTS module is supplied with a standard visual and functional inspection protocol.

Inspektionsbericht nach DVGW-Arbeitsblatt G 495

PRS: Arfshelm GVM
Identification: 1503
Date: 08.04.15

Wigersma & Sikkema

Building/Closet Total outside area	Gas (CH4) in the gas station: Outside area in order: Free admittance: Free flow: Door/locker in order: Corrosion/Paint in order:	In Ordnung In Ordnung In Ordnung In Ordnung In Ordnung In Ordnung	Floor clean: Verification: Connection to the other rooms sealed: Indication signs: Line diagram: Quality mark on the fire extinguisher:	In Ordnung In Ordnung Nicht vorhanden In Ordnung In Ordnung
Shut off valves (grounded)	Street cover free accessible:	Ja		
Register-/indicating instruments	Upstream pressure in bar/mbar: Downstream pressure in bar/mbar: Gas temperature in °C:	4.5 12 12		
Filter/Separator	Pressure difference in mbar:	00		
Preheating system (kettle/burner)	Waterlevel/ pressure in °bar: Adjustments heat originator: Heating GCL:			
Safety Shutoff Valve SSV	Position and position indicator:	Nicht ausgetestet		
Safety Relief Valve SRV	Gasleakage meter/Control level:	Nicht ausgetestet		
Regulator	Mode of operation:	In Ordnung		
Shut off valves	Position and indication:	Offen		
Pipes	Damage:	In Ordnung		
Measurement installation	Enter the counter of the ed: Counter: Enter the Vb in m³ of the counter of the DVC: Enter the Vn in m³ of the counter of the DVC: Is the clock of the DVC in order:	Ja 2500 In Ordnung 1544996		
Odorant	Mode of operation: Odorant stock in order:			
Remarks	Name of 2nd Technician: Bartl 1st Technician: Bartl Signature/Date: _____			

The standard visual inspection protocol

Print report

AS PN16 (ohne Whu)

PRS: Arfshelm GVM
GCL: Betriebskassette
Identification: 1503
Date: 04.03.16

Wigersma & Sikkema

Signature: _____
Date: _____
Name of 1st Technician: _____

	Ref. value (Min.):	Ref. value (Max.):	Actual value:
Regulator			
Net pressure:	36 mbar	44 mbar	36 mbar
Actual flow over ventilation:	56 mbar	64 mbar	60 mbar
Lockup pressure 1:	40 mbar	48 mbar	41 mbar
Lockup pressure 2:	40 mbar	48 mbar	41 mbar
Leakage:	0.5 mbar/min	0.5 mbar/min	0.2 mbar/min
Safety Relief Valve SRV			
Maximum set point:	60 mbar	66 mbar	63 mbar
Lockup pressure:	54 mbar	60 mbar	48 mbar
Leakage:	0.3 mbar/min	0.3 mbar/min	0.3 mbar/min
Safety Shutoff Valve SSV 1			
Maximum set point 1:	60 mbar	66 mbar	63 mbar
Maximum set point 2:	60 mbar	66 mbar	62 mbar
Maximum set point 3:	60 mbar	66 mbar	61 mbar
Minimum set point 1:			
Minimum set point 2:			
Tightness Membrane:	0.3 mbar/min	0.3 mbar/min	0.3 mbar/min
Leakage:	0.3 mbar/min	0.3 mbar/min	0.3 mbar/min
Safety Shutoff Valve SSV 2			
Maximum set point 1:			
Maximum set point 2:			
Maximum set point 3:			
Minimum set point 1:			
Minimum set point 2:			
Tightness Membrane:			
Leakage:			
Pressure range of the GCL:	DPS	Performed by	
Remarks:	Is the GCL in the original working po: Ja		
SBV BANDBRETTE ZU GROSS	1st Technician: Bartl		
	Name of 2nd Technician: Bartl		
	Supervisor:		

The standard functional inspection protocol

The standard visual and functional inspection protocols can be tailored to customer specific requirements, e.g. adding the company logo.

- **Result analysis:**
When this field is selected, the functional inspection results in the selected period will be analysed. Measured values that are outside the rejection boundaries are marked. If the analysis is finished, the message "Analysis completed" will be displayed.
- **From / Till:**
A date range can be set. Only stations with inspection results in the selected period will be displayed. When selecting a date field, the required date can be set as follows:

Choose date

Choose date

< October 2017 >

M	T	W	T	F	S	S
25	26	27	28	29	30	01
02	03	04	05	06	07	08
09	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	01	02	03	04	05

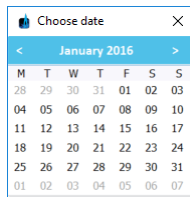
The < > symbols can be used to scroll through the months/years.

Choose date

< 2017 >


Jan	Feb	Mar	Apr
Mai	Jun	Jul	Aug
Sep	Oct	Nov	Dec

If the month/year is selected, the selection format will change to year. The < > symbols can be used to scroll through the years.



If a month is selected, the selection format will change to date. A specific date can be selected.

3.1.2 System Settings

Via the  symbol, the system settings menu can be selected.

System settings

- *Result.mdb database location*
 - Via *Choose file...*, the location of the Microsoft Access Result.mdb database can be selected.

The RESULTS module uses this database as the source for the visual and functional inspection results.
- *prsData.csv file location*
 - Via *Choose file...*, the location of the Comma Separated Value prsData.csv data file can be selected.

The RESULTS module uses this data file as the source for the rejection boundaries.
- *Visual inspection report*

Via the down arrow the required visual inspection protocol can be selected out of the list of available protocols.
- *Functional inspection report*

Via the down arrow the required functional inspection protocol can be selected out of the list of available protocols.
- *Active language*

Via the down arrow the required active language for the RESULTS module can be selected out of the list of available languages. Via the + symbol, an additional language can be added.
- *Maintenance languages*

The available languages are listed.

- *Source language: Nederlands (Brontaal)* is the source language for the RESULTS module. New required labels must be first added to the source language available labels list before they can be used and translated into other languages.

Add a label: Select the source language and add a new label at the bottom of the available labels list.

Delete a label: Existing labels can be deleted by means of the *.

Save Changes are saved

Cancel Changes are not saved

- *Other languages:* If another language is selected, translations in the other language can be added for each of the source language labels.

Save Changes are saved

Cancel Changes are not saved

Choose *Save*, to save the changes that were made to the system settings.

Choose *Cancel*, to not save the changes that were made to the system settings.



Wigtersma & Sikkema B.V.
6980 AC Doesburg
Leigraafseweg 4
6983 BP Doesburg
TEL: +31 (0) 313 – 47 19 98
FAX: +31 (0) 313 – 47 32 90
info@wigtersma-sikkema.com
www.wigtersma-sikkema.com

DDO2118GHEN/03-2019/rev.2