



Dräger X-dock 5300 Dräger X-dock 6300/6600

Technical Manual

Content

1	For your safety	4	11	Technical data	29
1.1	General safety notes	4	12	Order list	29
1.2	Definitions of alert icons	4	13	Glossary	30
2	Description	5			
2.1	Product overview	5			
2.2	Feature description	6			
2.3	Intended use	6			
2.4	Limitations on use	6			
2.5	GPL (General Public Licence)	6			
3	Installation	7			
3.1	Special features when servicing an X-am 8000 with PID	8			
4	Basics	9			
4.1	Switching the station on or off	9			
4.2	Initial setup of station	9			
4.3	Touchscreen display	9			
4.4	Start and test screens	9			
4.5	Logging users in or out	10			
4.6	Managing user profiles	11			
4.7	Configuring the test gas inlet	11			
4.8	Quick and extended bump test overview	14			
4.9	Manage tests	15			
4.10	Set up template configuration	17			
5	Use	17			
5.1	Conducting a visual inspection	17			
5.2	Inserting or removing the gas detector into or from a module	18			
5.3	Station self-test	18			
5.4	Conducting a test	18			
5.5	After use	20			
6	Menu	21			
6.1	Menu overview	21			
6.2	Manage tests	22			
6.3	Test gas configuration of the station	22			
6.4	System configuration	22			
6.5	Data management	23			
7	Permission level	24			
8	Troubleshooting	25			
9	Maintenance	26			
9.1	Maintenance intervals	26			
9.2	Replacing a test gas cylinder	26			
9.3	Charging function for gas detectors of the X-am series (optional)	26			
9.4	Performing a firmware update	27			
9.5	Changing the sealing insert	28			
9.6	Changing the fresh air filter	28			
9.7	Calibrating the touchscreen	28			
9.8	Cleaning	28			
10	Disposal	28			

1 For your safety

1.1 General safety notes

- Before using this product, carefully read these Instructions for Use and those of the associated products.
- Strictly follow the Instructions for Use. The user must fully understand and strictly observe the instructions. Use the product only for the purposes specified in the Intended use section of this document.
- Do not dispose of the Instructions for Use. Ensure that they are retained and appropriately used by the product user.
- Only trained and competent users are permitted to use this product.
- Comply with all local and national rules and regulations associated with this product.
- Only trained and competent personnel are permitted to inspect, repair and service the product. Dräger recommend a Dräger service contract for all maintenance activities and that all repairs are carried out by Dräger.
- Only trained and competent personnel are permitted to inspect, repair and service the product as detailed in these Instructions for Use.
- Use only genuine Dräger spare parts and accessories, or the proper functioning of the product may be impaired.
- Do not use a faulty or incomplete product. Do not modify the product.
- Notify Dräger in the event of any component fault or failure.

1.2 Definitions of alert icons

The following alert icons are used in this document to provide and highlight areas of the associated text that require a greater awareness by the user. A definition of the meaning of each icon is as follows:



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in physical injury, or damage to the product or environment. It may also be used to alert against unsafe practices.

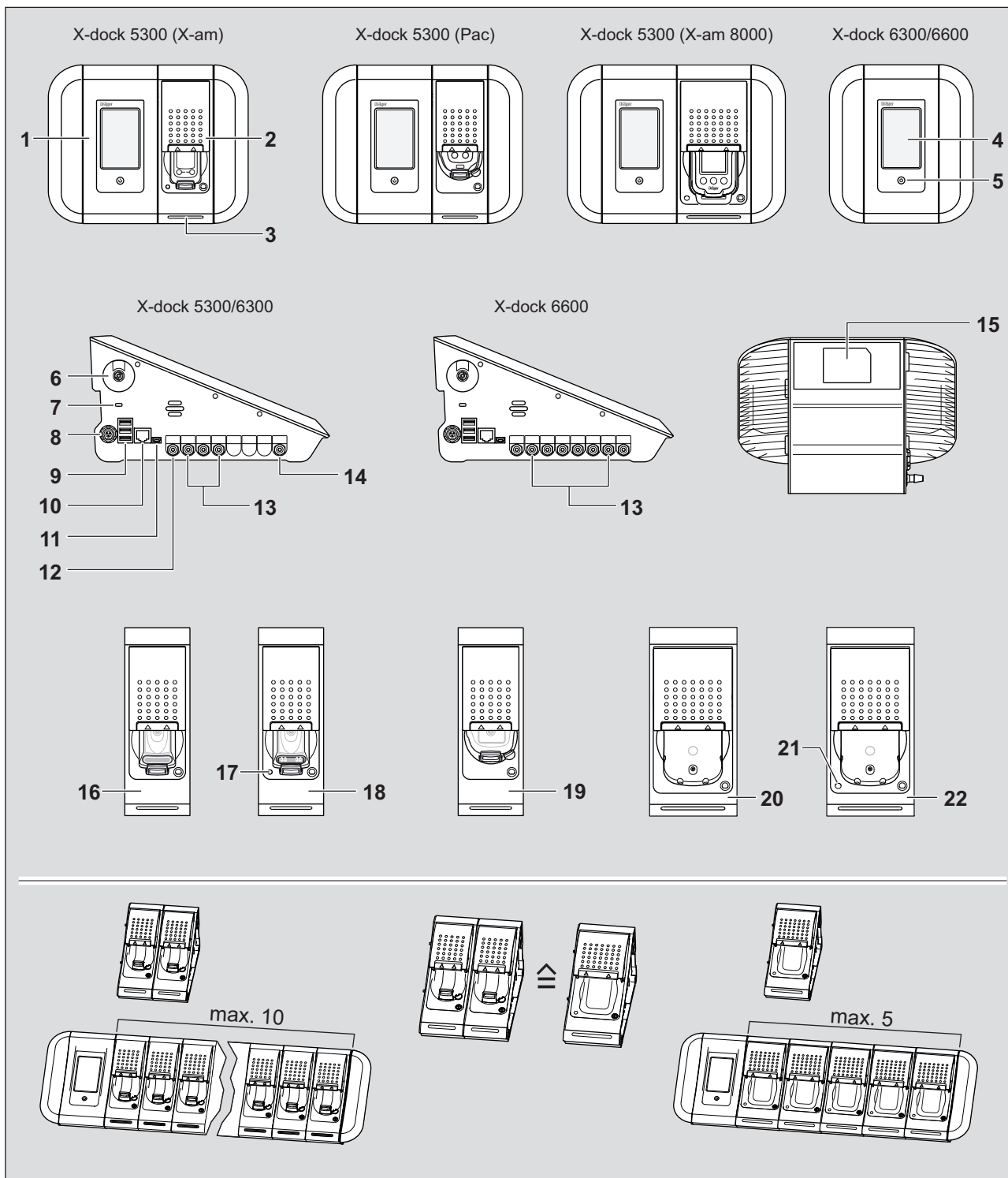


NOTICE

Indicates additional information on how to use the product.

2 Description

2.1 Product overview



00133286.eps

- 1 Master
- 2 Module
- 3 Status LED
- 4 Touchscreen display
- 5 Function key
- 6 Fresh air inlet with filter
- 7 Antitheft slot
- 8 Power supply
- 9 USB ports
- 10 Ethernet port
- 11 Mini USB port
- 12 Exhaust
- 13 Gas inlets
- 14 Compressed air inlet
- 15 Type plate
- 16 X-am 125 module
- 17 Charge status LED
- 18 X-am 125+ module (with charging function)
- 19 Pac module

2.2 Feature description

2.2.1 Master

The master assumes control of the sequencing of the maintenance station for functional testing, calibration and adjustment, as well as functions for user management, instrument management, printing of standard reports and standard certificates (using PostScript, Office Jet and PCL printers only), and also the user interface.

2.2.2 Modules

The instrument-specific interfaces such as, e.g., IR communication, gas exposure unit and charging contact are integrated into the modules. In addition, the modules contain sensors for detecting the visual, audible and vibration alarms on the instruments.

2.3 Intended use

The Dräger X-dock 5300/6300/6600 is a maintenance station of modular construction. The X-dock can be used to perform automated calibrations, adjustments and bump tests on portable gas detectors in parallel and independently from one another. A system consists of one master for 3 (X-dock 5300/6300) or 6 (X-dock 6600) test gases. The X-dock 5300 consists of a master station with one module and cannot be expanded. Up to 10 modules can be connected to the X-dock 6300 and 6600 master, depending on the module type. The modules automatically detect when an instrument has been inserted and control the gas supply so that an appropriate supply to the instrument is ensured at all times.



CAUTION

If car adapter X-dock is used as power supply for the maintenance station only 5 modules at the most may be connected to the master. You might damage the car adapter X-dock if you connect additional modules.

The following gas detectors can be used with the X-dock and its modules:

X-dock 5300/6300/6600		
with Pac module:	with X-am 125 (+) module:	with X-am 8000 (+) module:
Pac 3500	X-am 2000	X-am 3500
Pac 5500	X-am 2500	X-am 8000
Pac 6xx0	X-am 5000	
Pac 7000	X-am 5600	
Pac 8xx0		

2.4 Limitations on use

Dräger X-dock 5300/6300/6600 and their modules were not designed to meet the directives for firedamp and explosion protection and must not be used below ground or in hazardous locations.

2.5 GPL (General Public Licence)

Some of the device software includes open-source software, which has been published under GPL, LGPL or another open-source licence. They include GPL, GPLv2, LGPL, MIT, PostgreSQL, Apache, Apache 2, zlib. The source texts of the software can be obtained from Dräger on a CD under material number 83 21 874 for at least three years after purchase of the software. The licence terms and conditions of the software are included on CD.

3 Installation



WARNING

Risk of personal injury and damage to equipment through faulty maintenance of gas detectors. Unless the maintenance station is properly set up for the scheduled tasks, there is a risk that gas detectors are not checked and serviced as expected.

If gases above the LEL are to be used, a risk assessment must be carried out first. The resulting safety measures must be implemented prior to using the maintenance station.

Prior to initial operation and after modifications of the maintenance station, the correct design and dimensioning of the appropriately configured instruments must be approved by a qualified specialist.



CAUTION

Damage to the system or loss of data!

- Installation and deinstallation may only be performed in de-energized state.
- Prior to commissioning a preassembled maintenance station, the screw connections at the bottom and the rear side must be checked for tight fit and retightened, if required.

Otherwise, there is a risk of damage to the maintenance station or data loss.



CAUTION

Damage to the maintenance station!
Conductive and combustible dusts (e.g. carbon dust) may damage the maintenance station.

The maintenance station can automatically recognise the test gases required for the instrument and cross-check them with the connected and configured test gases.

The gas exposure sequence always results from the sequence of the connected test gas cylinders.

The maintenance station has various safety mechanisms at its disposal to prevent configurations critical to safety. For example there are limitations with regard to specific test gas concentrations or an automatic flushing process takes place at the beginning of the test in case of high measured values. Nevertheless, it is necessary for a qualified specialist to design and approve the station for the required task.

The designer for example must take into consideration the cross-sensitivities of the sensors with connected test gases and consult the respective sensor data sheets. A description of the tasks to be accomplished must be provided which in turn determines which test method with which test gas concentration is appropriate.



NOTICE

Dräger recommends the use of gases below the LEL only. Gases above the LEL and below the UEL should not be used.

Possible safety measures when using gases >100 %LEL include:

- Using the maintenance station under a suitable exhaust
- Directly discharging the test gas into a suitable exhaust or into the open air via an exhaust hose (max. 10 m long).
- Using pressure regulator valves with Flowstop
- Opening the test gas cylinder only for the duration of the test or calibration.
- Select the "Flush" test option.

If the required expert knowledge is not available, it has to be obtained from others (e. g. specialists, test institutions or manufacturers).



NOTICE

Ensure adequate space for the entire assembly.

The master and all modules must have the same firmware version. If this is not the case, a firmware update needs to be carried out (see chapter 9.4 on page 27).

1. If applicable, install modules on the master station in accordance with the assembly instructions (X-dock 6300/6600 only).
 - Depending on the module type, a maximum of 10 modules can be installed on one master.
 - The available modules can be combined in any way desired.
2. If applicable, install wall mount or cylinder holder in accordance with the assembly instructions.
3. Remove the sleeves from the intended gas inlets and from the gas outlet.



NOTICE

If the sleeve is not removed from the gas outlet, the station will be unable to conduct the self-test without errors.

4. Fit the gas feed hoses to the gas inlets on the master and connect them to the regulator valve on the test gas cylinder.



NOTICE

For the gas exposure sequence Dräger recommends using toxic gases with increasing concentrations.

Dräger recommends not to exceed a hose length of 10 m for the gas supply hoses.

5. If required, connect an exhaust hose (max. 10 m long) to the exhaust outlet to discharge the test gas into an exhaust or into the open air.

6. Ensure a supply of compressed air or fresh air:
 - Connect the compressed air hose to the compressed air port (outlet pressure of pressure regulator valve 0.5 bar, flow rate >3 L/min).
 - Adjust fresh air input (see chapter 4.7.2 on page 13). Setting: **Supplied by compressed air input**.

OR

- If required, connect the fresh air hose to the fresh air filter.
- Adjust fresh air input if necessary (see chapter 4.7.2 on page 13). Setting: **Supplied by pump**.



WARNING

Risk of personal injury!
Impurities of the ambient air may result in faulty measurements.
If you use the internal pump to supply fresh air through the fresh air inlet you need to ensure that the ambient air is devoid of interfering substances.



NOTICE

If the maintenance station is supplied with fresh air via a compressed air cylinder, all modules should always be equipped with gas detectors prior to starting a test. Otherwise, the compressed air cylinder will empty exceptionally quickly.

7. Connect the power pack.
 - Station with up to 3 modules: Power pack 24 V / 1.33 A
 - Station with 4 to 10 modules: Power pack 24 V / 6.25 A
 The entire system is supplied with power via the master.



NOTICE

Dräger recommends the use of Dräger test gas cylinders and Dräger pressure regulator valves (see chapter 12 on page 29). Alternatively there is the option of using a suitable pressure regulator valve with 0.5 bar outlet pressure and >3 L/min flow rate.

Dräger recommends to connect an exhaust hose (max. 10 m long) to the exhaust outlet to discharge the test gas into an exhaust or into the open air.

3.1 Special features when servicing an X-am 8000 with PID

When using the maintenance station with an X-am 8000 with PID, isobutylene must be set as test and calibration gas for the PID on the X-am 8000 via the Dräger CC-Vision PC software. Otherwise, an error message will be displayed.

Connect the test gas cylinder with isobutylene to the first available test gas inlet to ensure that the test gas has the highest possible quality when reaching the gas detector.

To improve the quality of the PID calibration, and to avoid that the sensor is unnecessarily influenced by other test gases, Dräger recommends selecting the "Flush" test option to flush the module with fresh air after performance of a test.

Dräger recommends not storing an X-am 8000 with PID in the module with the cover closed for a longer period of time, to avoid drifting of the PID.

For precise measurements with the PID LC, Dräger recommends repeating the zero adjustment on the sampling site with the X-am 8000 using an activated carbon pre-tube. The span calibration does not need to be repeated.

If an X-am 8000 with a PID LC has been stored for a longer period of time in the X-dock, the calibration must be checked prior to using the gas detector.

4 Basics

4.1 Switching the station on or off



NOTICE

If no action has occurred for 10 minutes, any user logged in will be logged off automatically. After 45 minutes, the screensaver will be activated.

To switch the station on:

- Press and hold the ⏻ key on the master for approx. 1 second.
The following information is displayed during the switch-on process:
 - Software version number

To switch the station off:

- Press and hold the ⏻ key on the master for approx. 3 seconds.
The station switches off.

Standby mode:

- Standby mode is activated after approx. 10 minutes with no activity on the station (input via touchscreen or opening/closing of a module cover).
- When the station switches over to standby mode, any user logged in will be logged off automatically. The user will need to log back in again when switching back to operating mode.
- The touchscreen is switched off in standby mode.
- The charging function of the X-am 125+ and X-am 8000+ modules with charging function is not affected by standby mode. The charging process is not interrupted.
- To switch to operating mode:
 - Tap the function key or
 - touch the touchscreen or
 - open or close a module flap.

4.2 Initial setup of station

1. Switch on the station, see chapter 4.1 on page 9.
2. Log in with the preconfigured "admin" user (user name: admin, password: 123456), see chapter 4.5 on page 10.
3. Configure the test gas inlet, see chapter 4.7 on page 11.
4. Change language if necessary:
 - a. Select > **System configuration > Language**.
 - b. Select desired language.
 - c. Confirm selection with **OK**.
5. Set date and time where necessary:
 - a. Select > **System configuration > Date & time**.
 - b. Make the desired settings.
 - c. Confirm settings with **OK**.
6. If required, change standard tests (see chapter 4.9 on page 15).
7. If required, set up network (see chapter 6.4.3 on page 22).

4.3 Touchscreen display

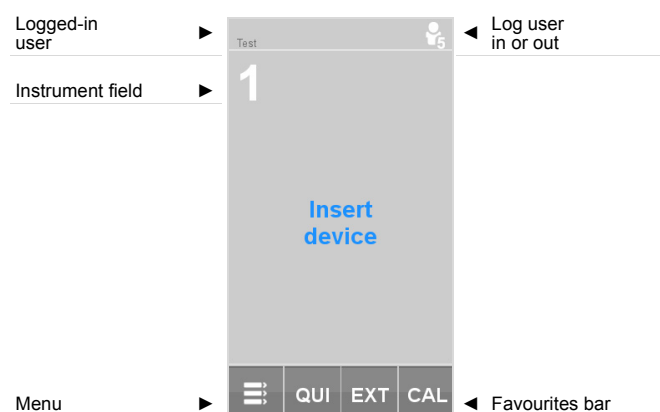
The buttons on the touchscreen display change dynamically depending on the task being executed. To execute an action, select the corresponding icon on the display.

Press the ⏻ key on the master at any time to access the start screen.

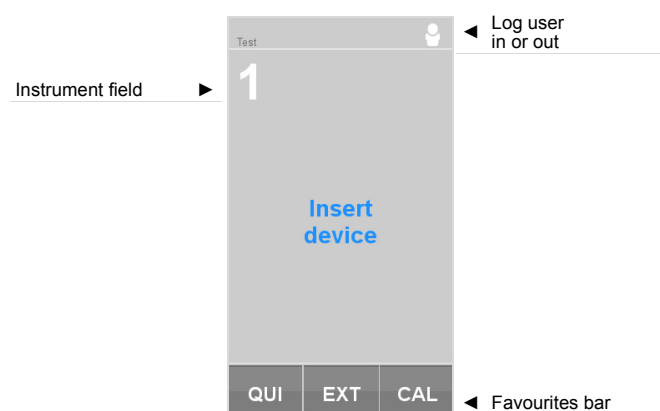
4.4 Start and test screens

The keys on the start and test screen change dynamically depending on the log-in status, single-mode status and the number of modules in use.

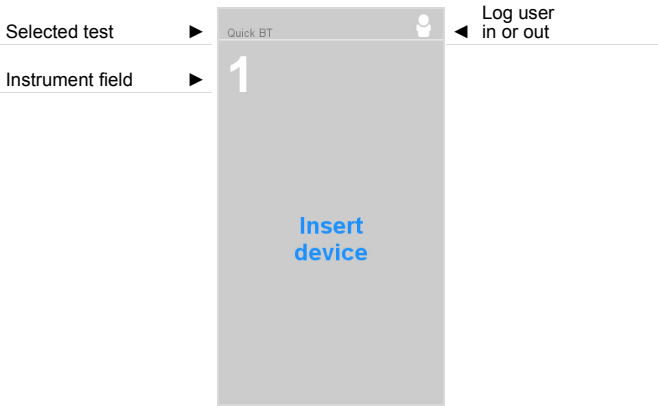
Start screen: User logged in (Single mode deactivated)



Start screen: User not logged in (Single mode deactivated)



Start screen: single mode activated:



4.4.1 Symbols

	Menu	Select this button to access the menu (see chapter 6 on page 21).
	Confirm	Select this button to confirm an input or function.
	Cancel	Select this button to cancel an input or function.
	Back	Select this button to access the previous screen.
	Log user in or out	Select this button to log users in or out. The number in the symbol indicates the permission level (see chapter 7 on page 24).

4.5 Logging users in or out

NOTICE

A User-ID is required to log in. This must be created beforehand by the Administrator (see chapter 4.6 on page 11).

A user with administrator rights is created by default:

User name: admin
Password: 123456

NOTICE

Dräger recommends changing the admin password after initial start-up.

To log in a user:

1. Select
 - a. Select
 - b. Select the desired user name from the list.or
 - a. Select **Select user**.
 - b. Enter desired user name.
2. Enter the password and confirm with

NOTICE

When entering the user name, 3 already saved user names will automatically be suggested and displayed. For quick selection, please select the desired user name.

To log out the current user:

1. Select

Information about the current user will be displayed.
 2. Select
- The current user will be logged out.

4.6 Managing user profiles

- Select  > **Data management > Users**.
The user overview will be displayed.

Created user ▶

Users	
1023	▲
1024	
1025	
1026	☰
1027	
1028	
1029	▼

Delete
Edit
New

←

To create a new user profile:

1. Select  > **Data management > Users > New**.
The input form will be displayed.

Enter last name ▶

Enter first name ▶

Enter User ID ▶

Enter permission level and password ▶

Enter company name ▶

Enter location ▶

Enter comments ▶

Edit user	
Family Name	
First Name	
User ID	
User ID... Password	
Company Name	
Location	
Comment	

X
OK

2. The following information must be created:
 - User name
 - User ID
 - Permission level (see chapter 7 on page 24)
 - Password
3. The following information can optionally be given:
 - Company name
 - Location
 - Comments
4. Save the new user profile with **OK**.



NOTICE

User profiles can only be created by the administrator or by users with authorisation level 5.

To edit an existing user profile:

1. Select  > **Data management > Users**.
The user profiles will be displayed.
2. Select the user profile.
3. Select **Edit**.
4. Edit the desired settings.
5. Confirm the new settings with **OK**.

4.7 Configuring the test gas inlet



WARNING

The gas concentrations entered must be identical to the specifications on the gas cylinder used. Incorrect details will result in faulty measurement results.



NOTICE

When the test gas concentration is changed, the corresponding test gas inlet must be reconfigured.

To configure a test gas inlet:

1. Select  > **Gas configuration**.
An overview of the test gas connections is displayed.

Select the test gas inlet ▶

Gas configuration

1 H2S CO CO2 CH4 O2	▶
2 N2	▶
3 No gas configured	▶
Settings	▶

←

2. Select desired test gas inlet.
The configuration menu will appear.

Station gas configuration		
Select the test gas inlet	Valve 2	
Enter part no.	Part No:	Enter batch no.
Enter use-by date	Lot No:	
	Good until:	
Select test gas	H2S	Create Test gas component
	H2S	Delete configuration
Enter concentration	Concentration: Unit	Select unit
	±20 % BT tolerance	Set bump test tolerance
Further options	Further options	
✕ OK		

Default setting for the bump test tolerance: 20 % (5 % with O₂)

When using a Dräger gas cylinder:

NOTICE

Upon entering the part no. of a Dräger gas cylinder, a gas cylinder level indicator is displayed automatically, unless this function was deactivated before (see chapter 4.7.2 on page 13).

1. Enter the part no. of the Dräger gas cylinder.
All the necessary details for the configuration will be filled in automatically. The batch number and the expiry date can be entered manually in addition.

NOTICE

The values entered automatically must be matched with those indicated on the test gas cylinder. If these values are not identical, the value indicated on the gas cylinder is to be considered and a manual correction of the values must be made in the station.

2. If necessary select **Further options** and , to reset the gas cylinder level indicator.
 3. If required, configure other gas inlets in the same way.
- When using a gas cylinder from another manufacturer:

1. Create or delete test gas component.
 - Create a new test gas component with .
 - Delete the current test gas component with .

NOTICE

Deleting all test gas components deletes all information of the test gas inlet.

2. Select gas.
3. Enter the gas concentration.
4. Select gas units.
5. If required, create additional test gas components.

6. The following information can optionally be given:
 - Part no. of the gas cylinder
 - Batch number of test gas cylinder
 - Expiry date of the gas cylinder
7. If required, enter **Further options**.

4.7.1 Further options

NOTICE

It is necessary to specify the volume, volume type, pressure and unit to use the gas manager.

Further options		
Valve 1		
Gas	Concentration	
H2S	15 ppm	
CO	50 ppm	
CO2	2 Vol%	
CH4	2.5 Vol%	
O2	18 Vol%	
Enter volume	58.0	Relax. Volume type
Enter pressure	500	psig Enter unit for pressure
Hose length	☐ Schlauch > 2m	State of gas pressure/ Gas cylinder level indicator ¹

1. Select this symbol to reset the gas cylinder level.

1. Enter volume of gas cylinder.
2. Specify the type of volume:
compr. = cylinder volume
relaxed = gas volume (cylinder volume x pressure)
3. If required, refresh test gas pressure.
4. If necessary, activate **Hose > 2m** if the length of the test gas hose exceeds 2 m.

NOTICE

Dräger recommends not to exceed a hose length of 10 m for the gas supply hoses.

5. If required, configure other gas inlets in the same way.

State of gas pressure:

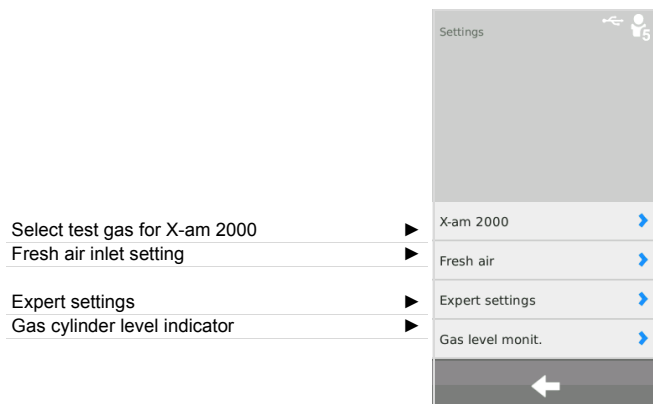
Display	Gas pressure	Meaning
	<0.4 bar	Gas pressure too low.
	0.4 - 0.6 bar	Gas pressure correct.
	>0.6 bar	Gas pressure too high.

Gas cylinder level indicator:

Display	Gas cylinder level
	61 - 100 %)
	30 - 60 %)
	< 30 %
	Gas cylinder level indicator deactivated

4.7.2 Settings

1. Select  > **Gas configuration > Settings.**



For the X-am 2000, it is possible to choose between three different test gases that are also used for calibration and testing. The three options are methane (CH₄), propane (C₃H₈) and pentane (C₅H₁₂). The sensor is calibrated with different sensitivity levels depending on the gas selected. More information on this can be found in the relevant sensor data sheets.



NOTICE

The corresponding gas must be connected to one of the gas inlets and set in the gas configuration.

There is also the option of setting an "increased sensitivity" option for propane and pentane. This option artificially increases the sensitivity to calibrate the sensors so that these have approximately a nonane sensitivity level (in other words, a sensitivity level as if they were calibrated for nonane). More information on the subject of cross-sensitivity calibration can be found in the relevant sensor data sheets.

To select the test gas for X-am 2000:

1. Select **X-am 2000**.
2. Select the required test gas from the list. The following selection is available:
 - Methane - CH₄ (default setting)
 - Propane - C₃H₈
 - Pentane - PENT

For propane and pentane, the "Increased sensitivity" (vapour sensitivity) option can also be activated.
3. Confirm selection with **OK**.

To set the fresh air input:

1. Select **Fresh air**.
2. Select desired setting:
 - **Supplied by pump** - fresh air inlet (default setting)
 - **Supplied by compressed air input** - compressed air inlet
3. Confirm selection with **OK**.

The following settings can be made in the expert menu:

- Ignore max. concentration for quick bump test
- Set test behaviour for missing test gases

To ignore the concentration limit specified by Dräger for the quick bump test:

1. Select **Ignore max. conc. for BTQ**.
2. Activate checkbox (default setting: deactivated).
3. Confirm selection with **OK**.

Activating this feature allows users to use higher test gas concentration for the quick bump test than recommended by Dräger.

To set the test behaviour with missing test gases:



WARNING

This feature must only be activated by trained and qualified personnel since wrongly selected test gas concentrations may lead to a positive test result although the gas detector's warning comes too late.

1. Select **Cancel the test on missing gas**.
2. Activate checkbox (default setting: activated).
3. Confirm selection with **OK**.

This function can be used to set whether or not a test or calibration is carried out when a required test gas is not connected.



WARNING

If this function is deactivated, the corresponding channel is not tested or calibrated.

To set the gas cylinder level indicator:



NOTICE

The gas cylinder level indicator is only available for cylinders that are configured via a Dräger part no.

1. Select **Gas level monit..**
2. Activate or deactivate check box **Gas level monit..**
3. Confirm selection with **OK**.

To reset the gas cylinder level indicator for a new test gas cylinder:

1. Connect a new test gas cylinder to a test gas connector.
2. Select  > **Gas configuration**.
3. Select desired gas inlet.
4. Select **Further options** and select  to reset the gas cylinder level indicator.

4.8 Quick and extended bump test overview

The gas test must be selected based on the criteria that are to be checked during a test.

4.8.1 Quick bump test (test of alarm actuation)

In the quick bump test, the following are checked:

- Check of whether the pre-alarm threshold (A1) is exceeded. (For O₂ sensors it is assumed that the pre-alarm threshold A1 (<20.9 Vol.%) is not reached.)
- Check of whether the concentration remains above the alarm for a specified time.
- Check of whether the test duration remains below a specified maximum time.

The times are stored in the gas detector for each sensor and each measured gas.

For the quick bump test, choose a suitable test gas in relation to the pre-alarm threshold (A1).

Exception: Test with substitute gas:
If a test gas is used that is different to the measured gas, the alarm threshold does not represent a suitable criterion. In this case, the test threshold is recalculated. The test threshold is set at 1/3 of the test gas concentration.

4.8.2 Extended bump test (test of accuracy)

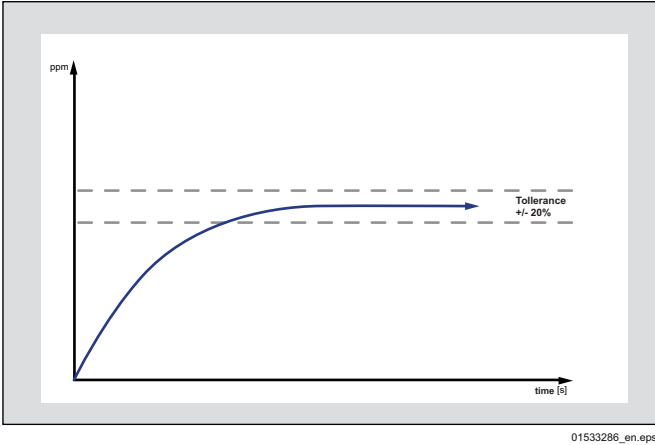
In the extended bump test, the following are checked:

- Check of whether the defined concentration of test gas is achieved within a specified tolerance. The tolerance can be adjusted in the X-dock by the user if necessary (see “Configuring the test gas inlet” on page 11).
- Check of whether the concentration of test gas remains within the tolerance window for a specified time.
- Check of whether the test duration remains below a specified maximum time.

The times, as well as suitable and reliable concentrations of test gas, are stored in the gas detector for each sensor and each measured gas.

A test only begins when the concentration of test gas is appropriate for the gas in question.

Bump test tolerance example:



4.8.3 Advantages and disadvantages

	Quick bump test	Extended bump test
Test duration	++	+
Gas consumption	++	+
Response to reactive gases (adsorption)	+	o
Assessment of accuracy / residual sensitivity	-	++
Response to using incorrect test gas (e. g. wrong concentration is set or cross-sensitivity is not defined since wrong test gas cylinder connected; gas remaining in hose etc.)	-	++
Range of admissible test gas concentrations (minimum and maximum allowable concentration)	o	++
Testing beneath A1 possible	-	++

++ very good, + good, o normal, - not being tested

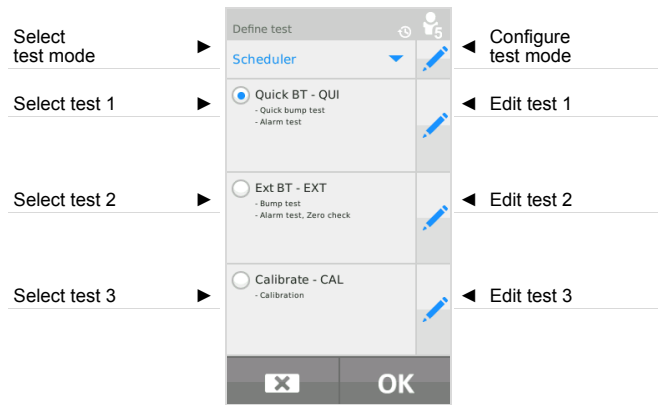


NOTICE

For increased safety and in case of cross-sensitivities to the connected test gases, Dräger recommends using the extended bump test.

4.9 Manage tests

- Select  > **Define test**.
The test overview will be displayed.



4.9.1 Selecting the test mode

The following test modes are available. The test modes define the behaviour of the system when the user is logged off. The test mode Test scheduler can be configured.

Mode	Description
Favorites mode	The Favorites mode displays the predefined tests. These can be selected via the favourites bar.
Single mode	In Single mode, a predefined test is started by closing the module flap. Several tests can be started and executed in parallel.
Test scheduler	The Test scheduler enables the user to configure the time and weekday when a predefined test should be performed. To configure the Test scheduler mode, select  . Manual tests can only be started when the user is logged in.

To select the test mode:

- Select .
- Select desired test mode.
- If necessary, select  of the test mode to be edited (only possible with the Test scheduler test mode).
- If necessary, edit tests (see chapter 4.9.2 on page 15).
- Save settings with **OK**.

4.9.2 Creating or editing a test



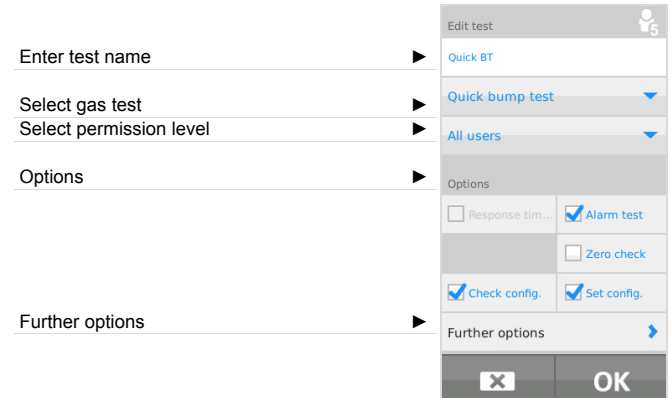
NOTICE

A maximum of 3 favourites may be created.

The first 3 characters of the test name are displayed in the list of favourites.

To create or edit a test:

- Select the symbol  of the test to be edited.
The editing window is displayed.



- Enter desired test name.
- Select the desired gas test.
The following gas tests are available:

Tests with measured gas

-	No gas test, only the activated options are run.
Quick bump test	Test threshold override test (if test gas = measured gas, concentration A1; see chapter 7. on page 16).
Extended bump test	Test for reaching cylinder concentration within a tolerance range (see chapter 7. on page 16).
Calibration	Zero point and sensitivity adjustment

Tests with substitute gas

(The Pac 7000 OV / PAC 7000 OV-A does not support switching to the test gas. For this reason, the X-dock performs the conversion here. There is no compensation for the effects of temperature, so testing/calibration is only recommended in a range of from 0-30 °C.)

-	No gas test, only the activated options are run.
Quick bump test	For tests with substitute gas, a switch is made to the test gas. So, for example, the influence of temperature is reduced and a greater accuracy is achieved. Since the alarm thresholds no longer apply here, it is always tested at a calculated threshold. The threshold is calculated at 1/3*test gas concentration.
Extended bump test	For tests with substitute gas, a switch is made to the test gas. So, for example, the influence of temperature is reduced and a greater accuracy is achieved. For the extended test, a check is carried out on the test gas concentration with the set tolerance.
Calibration	For calibration with substitute gas, a switch is made to the test gas. So, for example, the influence of temperature is reduced and a greater accuracy is achieved. Calibration uses the test gas concentration of the test gas. Following successful calibration, a switch is made to the measured gas.

4. Assign the desired authorisation level.

5. Select **Options** if necessary.

The following options are available:

Response time test (only for calibration)	The response times of the sensors are tested.
Alarm test	All the alarm functions of the gas detector are checked for functionality (not intensity) (noise, light, vibration if configured).
Zero check	The zero point is checked.
Check config.	The configuration of the gas detector is compared with the template activated at the station. If the configuration does not match, an error message is generated.
Set config.	If this option is activated, the gas detectors are configured according to the activated template at the station if a deviation has previously been determined.



NOTICE

When the alarm functions are being tested, the ambient noise must not be too loud as otherwise the station will not be able to check the horn function.

6. If required, select **Further options**:

Time sync.	The time on the gas detector is synchronised with the station.
Download DL	Download data memory and events memory data from the gas detector to the station.
Reset DL	The data in the data and events memories are cleared.
Reset TWA	The TWA ¹ time is reset.
Turn off	The gas detector is switched off automatically after the test.
AutoCal	Perform automatic calibration (e. g. calibrate after a faulty bump test). If automatic calibration has been activated, the T90 response time test can be activated.
Purge	The system is purged with fresh air after every test.
Generate²	Create certificate (stored in the station as a PDF file).
Print	Print out the certificate on a connected USB printer.

- 1 Average shift values (time-weighted average) are generally limited to eight hours exposure per day per workplace for 5 days a week during a work lifetime.
- 2 In the case of networked systems, Dräger recommends that you do not activate the "Generate" option but create the certificate using the X-dock Manager. This reduces the test duration.

7. Save settings with **OK**.

4.10 Set up template configuration



NOTICE

Before changing the configuration, Dräger recommends:

1. Transferring the new configuration template to a gas detector using an X-dock station.
2. Checking the new configuration on the gas detector using the Dräger CC-Vision PC software,
3. approving the configuration template and distributing it to the corresponding X-dock station.

The maintenance station can configure gas detectors automatically using a configuration template. The configuration templates can be created using the Dräger CC-Vision PC software. The configuration templates can be transferred to the maintenance station using a USB memory stick or the X-dock Manager.

1. Create a configuration template using the CC-Vision PC software.
2. Transfer the template file to the station using a USB memory stick or the X-dock Manager (see chapter 6.5.6 on page 23 and online help for X-dock Manager).
3. When defining a test, select the desired option:
 - a. Select **Check config.** whether to carry out just one check of the configuration.
 - b. Select **Check config.** and **Set config.** whether to check the configuration. If the configuration does not match the template, the gas detector will be automatically reconfigured according to the configuration template.

5 Use



WARNING

A defective pressure reducer on the gas cylinder can lead to increased pressure in the station. The gas hoses may loosen as a result and gas may escape.

Health hazard! Test gas must not be inhaled. Observe the hazard warnings in the relevant Safety Data Sheets. Provide venting into a fume cupboard or outside the building.



NOTICE

To prevent loss of gas, Dräger recommends closing the gas cylinders when the station is left unattended for long periods.

Adjustment may not be possible due to instrument and channel errors.

When using a compressed air cylinder at the compressed air inlet, Dräger recommends to always equip all modules with gas detectors prior to starting the test. Otherwise, the compressed air cylinder will be emptied unusually quickly.

5.1 Conducting a visual inspection

A visual inspection of the instruments must be conducted every time before being inserted into the station.

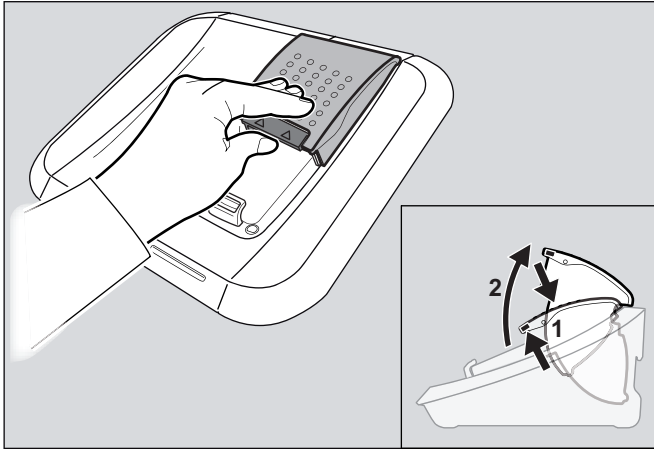
1. Check that the housing, external filters and the nameplates are intact.
2. Check and, if required, clean the housing, alarm elements (LED window, horn opening), sensor ports and, if applicable, battery contacts for contamination and damage or have them checked by the service of Dräger.



NOTICE

Instruments that did not pass visual inspection must not be inserted into the station. Otherwise the test cannot be correctly assessed in its entirety.

5.2 Inserting or removing the gas detector into or from a module



00233286.eps

To insert the instrument in the module:

1. If necessary, push the lock up slightly and open the module cover upwards.
 2. Place the instrument in the corresponding module. The temperature of the gas detector must be $>0^{\circ}\text{C}$.
 3. Close the module cover and make sure it engages on both sides.
The instrument will be detected automatically.
- X-am 125+/8000+ module with charging function only:
 - After the instrument is inserted, the charging status is displayed for approx. 5 seconds via the charging status LED.
 - The charging function starts automatically approx. 15 minutes after the last test.

To remove the instrument from the module:

1. Push the lock up slightly and open the module cover upwards.
2. Remove the instrument.

5.3 Station self-test

A self-test is carried out:

- When the station is started up.
- When the last successful self-test was more than 24 hours ago and a test is being carried out.

The station is tested for leaks, pump function, and the software version of the individual modules and the master.

5.4 Conducting a test



NOTICE

When using a gas $>100\%$ LEL for the bump test, Dräger recommends opening the respective test gas cylinder only for the duration of the test or calibration, and selecting the "Flush" test option (see chapter 4.9.2 on page 15).



NOTICE

Single mode is activated by default.

Several tests can be started and executed in parallel in the Single mode.

A failure of a LED, horn or vibration test results in a negative evaluation of the overall test, and thus in the locking of the respective gas measurement system.

A test of the sensor reserve is only performed with sensors that support this function. The results are displayed under test details and give information about the state of the sensor.



NOTICE

If an X-am 8000 remains off for longer than 21 days and is not charged, deep sleep mode is activated automatically. In deep sleep mode, the gas detector can no longer be switched on using the Dräger CC-Vision PC software or the Dräger X-dock. In this case, the gas detector must be switched on manually.

The following tests are preconfigured:

Test 1: QT	Quick bump test including checking the alarm elements.
Test 2: EXT	Extended bump test incl. zero-point check and checking the alarm elements.
Test 3: CAL	Calibration and checking the alarm elements.

1. If necessary, open the test gas cylinders.
2. If necessary, switch on the X-dock.
3. Conduct a visual inspection of the instruments (see chapter 5.1 on page 17).
4. Insert the instruments into the modules (see chapter 5.2 on page 18).

If Single mode is activated:

- The default test is started automatically when the module flap closes.
The Status LED flashes blue.
The individual test phases are displayed.

If Favorites mode is activated:

1. Select the desired test from favourites bar.
2. If the test requires a higher authorisation level, log in at the station with the respective authorisation level (see chapter 4.5 on page 10).
Test will be started automatically.
The status LED flashes blue.
The individual test phases are displayed.

If Test scheduler is activated:

- If necessary, log user out on the station (see chapter 4.5 on page 10).
- The preset test is performed according to the configured time schedule.

Test passed:



01033286.eps

- Confirmation is shown on the display.
- The Status LED flashes green.
- If required, select the desired instrument field for additional information (e.g. test date and performed tests).
- Remove the instrument from the module.



WARNING

Prior to each use of the gas detector, check whether it is switched on and in measuring mode after removing it from the X-dock. Otherwise the user may carry a device that is switched off!

Test passed, with reservations:



01133286.eps

This state means that partial tests of the favourite could not be conducted due to special settings.

- Confirmation is shown on the display.
- The status LED flashes yellow.
- If required, select the desired instrument field for additional information.
- Remove the instrument from the module.



WARNING

Prior to each use of the gas detector, check whether it is switched on and in measuring mode after removing it from the X-dock. Otherwise the user may carry a device that is switched off!

Test not passed:



01133286.eps

- An error message is shown on the display.
- The Status LED flashes red.
- If required, select the desired instrument field for additional information.
- Identify and rectify the error.
- Repeat the test if necessary.

Overview of status LEDs

Colour	Status	Meaning
blue	flashing	Process in progress
green	flashing	Test passed
yellow	flashing	Test passed, with reservations:
red	flashing	Test failed/cancelled

5.5 After use

1. If required, remove instruments from modules.
2. Close the test gas cylinders.

**NOTICE**

To keep energy consumption low, Dräger recommends switching off the station after use according to the Instructions for Use.

If the gas detectors are stored in the station, this will lead to increased power consumption by the gas detectors. If the gas detectors are stored in the station, Dräger recommends using the X-am 125+/8000+ modules.

**NOTICE**

Prior to storing gas detectors in the maintenance station, select the "Flush" test option to ensure that the module is flushed with fresh air after completion of a test.

**NOTICE**

Never store the X-am 125 gas detectors for extended periods (max. 2 months) without a power supply as the internal buffer battery will run down.

6 Menu

6.1 Menu overview

**NOTICE**

Access to the individual menu items depends on the authorisation level.



6.2 Manage tests

In this menu, the existing tests can be edited, new tests can be created and the standard test can be defined.

- Select  > **Define test**.
The test overview will be displayed.
For more information see chapter 4.9 on page 15.

6.3 Test gas configuration of the station

The individual gas connections can be configured in this menu.

- Select  > **Gas configuration**.
An overview of the test gas connections is displayed.
For more information see chapter 4.7 on page 11.

6.4 System configuration

6.4.1 Set Date & time



NOTICE

If the station is connected to a server, only place and format can be changed. The station synchronises time and date automatically.

The following settings can be made in this menu:

- Time zone
- Date format
- Date
- Time

To set the date and time:

1. Select  > **System configuration > Date & time**.
2. Make the desired settings.
3. Confirm settings with **OK**.

6.4.2 Setting the language

1. Select  > **System configuration > Language**.
2. Select desired language.
3. Confirm selection with **OK**.

6.4.3 Network



NOTICE

If the IP or DBMS address is changed, the station must be re-started to make the change active.

DNS is supported in the network configuration.

To set System address:

1. Select  > **System configuration > Network > System address**.
2. Select dynamic or static IP address.
3. Where necessary, enter the IP of the system address.
4. Where necessary, enter the Subnet Mask (default: 255.255.255.0).

To set the central database address:

1. Select  > **System configuration > Network > DBMS address**.
2. Enter the server IP.

6.4.4 Cleaning the database

1. Select  > **System configuration > Database > Clean up**.
2. Select **Start clean up**.
3. Confirm deletion of the database entries with **OK**.
The progress of the deletion is displayed.



NOTICE

The database entries, data loggers and certificates are deleted.

6.4.5 Display info screen

1. Select  > **System configuration > Info screen**.
The following information is displayed:
 - Application version
 - Hardware version
 - Kernel version
 - MAC address
 - IP address
 - Part number
 - Serial number

6.4.6 Performing an update

To perform a firmware update, see chapter 9.4 on page 27.

6.4.7 Station options

1. Select  > **System configuration > Station options**.
2. Make the desired settings:
 - **Direct charge**
Activate this option so that the gas detectors are not switched on after insertion.
In the case of X-am 125+ modules, the gas detectors are charged directly.
 - **Enable vibration test**
Activate this option to test the vibration function of the gas detectors.
 - **Enable autom. logout**
Activate this option to log a user out automatically once a test has been carried out.
 - **Next maintenance**
Shows how many days have passed since the last service was performed. If the service interval has been exceeded, an additional check box to deactivate the note for the self check for 365 days is displayed.
 - **Location**
The location of the station can be entered here.

6.5 Data management



NOTICE

All entries are stored in UTC time (Universal Time Coordinated).

6.5.1 Managing user profiles

User profiles can be created, edited or deleted in this menu.

- Select > **Data management > Users**.
The user profiles will be displayed.
For detailed information see chapter 4.6 on page 11.

6.5.2 Export Station event logger

The saved data of the event memory can be saved to a connected USB storage device with this function.

To copy data from the event memory to a USB data storage device:

1. Connect USB data storage device to the USB port of the station.
The USB icon is displayed in the status bar.
2. Select > **Data management > Station event logger**.
The event memory is displayed.
3. Select the required files from the list.
4. Acknowledge selection with **OK**.
The selected files are copied onto the USB data storage device.

6.5.3 Export data memory

The saved data of the data memory can be saved to a connected USB storage device with this function.

To copy data from the data memory to a USB data storage device:

1. Connect USB data storage device to the USB port of the station.
The USB icon is displayed in the status bar.
2. Select > **Data management > Export data logger**.
The data memory is displayed.
3. Select the required files from the list.
4. Acknowledge selection with **OK**.
The selected files are copied onto the USB data storage device.

6.5.4 Export certificates

This function can be used to save the stored certificates to a connected USB storage device.

To copy certificates to a USB data storage device:

1. Connect USB data storage device to the USB port of the station.
The USB icon is displayed in the status bar.
2. Select > **Data management > Export certificates**.
The event memory is displayed.
3. Select the required certificates from the list.
4. Acknowledge selection with **OK**.
The selected certificates are copied onto the USB data storage device.

6.5.5 Mobile synchronization

This function can be used to copy the local database, reports, certificates and device data loggers to a connected USB storage device. This is useful if the data cannot be exchanged via the network connection. The data can then be imported via the X-dock Manager (see X-dock Manager Online Help).

1. If necessary, connect the USB storage device to the USB port on the station.
2. Select > **Data management > Mobile synchronization**.
The available target locations are displayed.
3. Select desired target location.
4. Confirm the selection with **OK**.
The data is copied to the target location.



NOTICE

Dräger recommends cleaning the local data after successfully importing the data into the database (see chapter 6.4.4 on page 22).

Dräger recommends exporting the local data on a regular basis to keep the amount of data to be exported, and thus copied, small.

The export via the MSD area is faster than via a USB storage device.

6.5.6 Import configuration template

To import a configuration template to the station from a USB memory stick:

1. Create a configuration template with the aid of the CC-Vision PC software.
2. Transfer the template file to a USB memory stick.
3. Insert the USB memory stick into the USB port on the station.
4. Select > **Data management > Device configuration**.
5. Select **Local template**.
6. Select **Load template**.
7. Select template file.
8. Confirm selection with **OK**.
The template file is imported to the station.



NOTICE

When a local template is activated, the X-dock Manager at the station will not use the global templates. When the local template is deactivated, the global template of the X-dock Manager will be used.

7 Permission level

The availability of functions, tests or menu items depends on the privileges for the particular permission level.

Function	Permission level				
	1	2	3	4	5
Performing default tests in logged off condition	X	X	X	X	X
Performing default tests in logged on condition	Following configuration				
Change password					X
Define test					X
Export data memory (station)					X
Set Gas configuration					X
Show devices					X
Specifying advanced options					X
Manage users					X
Set date and time					X
Perform SW update (station)					X
Set Language					X
Set network configuration					X
Database operations					X

8 Troubleshooting

Faults	Cause	Remedy
Station does not start.	Power supply not connected.	Check connections to mains supply, power pack and station.
	Power pack defective.	Replace power pack.
		Check that the station can be started by pressing the function key.
Gas detector not detected.	Module dirty.	Clean module.
	Instrument dirty.	Clean instrument.
	Module defective.	Contact DrägerService.
	SW version of gas detector out of date.	Update gas detector SW.
Measuring chamber leaky.	Instrument and/or module dirty.	Clean instrument and/or module.
	Seal worn.	Replace seal (see chapter 9.5 on page 28)
No communication with PC.	Ethernet cable not connected correctly.	Check cabling.
	Ethernet cable defective.	Replace Ethernet cable.
	IP address incorrectly configured.	Reconfigure IP address.
	Firewall is blocking data traffic.	Configure the firewall correctly.
	X-dock does not function with computers in networks with the IP address 192.168.79.XXX.	Try other address range.
Gas detectors do not pass the gas tests (test gas not reaching the instrument).	Hose connections incorrect.	Check hose connections.
	Gas configuration not correct.	Check Gas configuration.
	Test gas cylinder empty or closed.	Check test gas cylinder.
	Pressure regulator valve incorrectly set.	Check setting of pressure regulator valve.
Test gas pressure is too low.	Pressure regulator valve incorrectly set.	Check setting of pressure regulator valve.
	Hose connections incorrect.	
	Test gas cylinder empty or closed.	
Test gas pressure is too high.	Pressure regulator valve incorrectly set.	Check setting of pressure regulator valve.
Alarm element test not carried out.	External light sources are interfering with the alarm element test.	Check whether or not external light sources are creating interference, re-position light sources or station as necessary.
The system does not recognize the connected USB storage device.	The formatting of USB storage devices varies, depending on the manufacturer. This applies to the file system (e.g. FAT32 or NTFS) as well as the partitioning.	Dräger recommends using FAT32 and a partitioning that contains partitioning tables (USB-ZIP or USB-HDD).
Touchscreen cannot be operated or only with restrictions.	Touchscreen no longer correctly calibrated.	Recalibrate the touchscreen, see chapter 9.7 on page 28.
Module not found or Wrong (incompatible) SW version error message (although everything is connected correctly).	This error can occur if a master is connected to modules with different software versions.	In this case, a firmware update has to be performed via the master, even if the most current firmware is already installed on the master.
	If the modules are not connected correctly, the electrical connection may be faulty.	Check whether all connections are correctly connected and screwed tight.
Error message Firmware version not supported on module: X.	The firmware version of the affected gas detector is not compatible with X-dock.	Perform an update with the CC Vision PC software.

9 Maintenance

9.1 Maintenance intervals



NOTICE

The maintenance intervals must be established in each individual case and shortened if necessary, depending on safety considerations, process conditions, and the technical requirements of the equipment. Dräger recommend a Dräger service contract for all maintenance activities and that all repairs are carried out by Dräger.

9.1.1 Before every start-up

The following work must be carried out before every start-up of the equipment:

- Check the hoses for dirt, brittleness and damage and replace if necessary.
- Check the hoses are secure, to prevent escapes of gas.
- Check that all cable connections are secure.
- Visual inspection of the modules and sensor seals. If very dirty or if there are visible defects, the sensor seal must be replaced.

9.1.2 Annually

Inspection of the entire X-dock station by competent personnel.

9.2 Replacing a test gas cylinder

If a test gas cylinder is used up or has expired (expired for calibration only), the station automatically checks whether another suitable test gas cylinder is connected. If so, the suitable test gas cylinder is used automatically.

To replace an empty test gas cylinder with an identical full test gas cylinder:

1. Close empty test gas cylinder valve.
2. Unscrew the pressure regulator valve from the test gas cylinder.
3. Screw pressure regulator valve on full test gas cylinder with identical test gas concentration.
4. Slowly open the test gas cylinder valve.
5. If gas balancing was activated, reset cylinder level (see chapter 4.7 on page 11).
6. If lot number and/or use-by date were specified, update lot number and/or use-by date (see chapter 4.7 on page 11).

To replace a test gas cylinder with a test gas cylinder with other test gas concentration:

1. Close empty test gas cylinder valve.
2. Unscrew the pressure regulator valve from the test gas cylinder.
3. Screw pressure regulator valve on full test gas cylinder with changed test gas concentration.
4. Slowly open the test gas cylinder valve.
5. Reconfigure the corresponding test gas inlet, see chapter 4.7 on page 11.

9.3 Charging function for gas detectors of the X-am series (optional)

Gas detector	Charging module	Charging time ¹
X-am 2000 X-am 2500 X-am 5000 X-am 5600	X-am 125+ module	approx. 4 h ²
X-am 3500 X-am 8000	X-am 8000+ module	approx. 9-10 h

- 1 With the rechargeable battery completely empty.
- 2 A new NiMH supply unit reaches its full capacity after 3 full charge/discharge cycles.

The station offers 2 different charging functions:

- Charge after 15 minutes of inactivity
- Direct charging of a switched off gas detector

To charge a gas detector using a X-am 125+ module after a test:

1. Place the gas detector in the X-am 125+ module.
2. Close the module flap.
The instrument will be detected automatically.
 - After the instrument is inserted, the charging status is displayed for approx. 5 seconds via the charging status LED.
 - The charging function starts automatically approx. 15 minutes after the last test.

The station additionally offers an option for directly charging switched-off gas detectors with no waiting period. If this option is activated, the gas detectors will not be automatically switched on when inserted into the modules. The X-am 125+/8000+ modules then start charging directly.

To charge a switched-off gas detector directly using an X-am 125+/8000+ module:

1. Activate the option **Direct charge** on the station (see chapter 6.4.7 on page 22).
2. Insert the switched-off gas detector in the X-am 125+/8000+ module.
3. Close the module flap.
The gas detector will be detected automatically and charged directly.

If an error occurs:

- Remove from the module and re-insert.
- If this does not correct the error, have the module repaired.



CAUTION

With X-am 125+ charging modules only: A short-circuit in the charging contacts in the modules, e. g. due to metal objects falling into the device, will not damage the station but should be avoided due to a potential risk of overheating and error displays on the module.



NOTICE

With X-am 8000+ charging modules only: Metal objects in the charging cradle can have a negative impact on the charging function, and may lead to an error or prevent that the gas detector is charged.

Overview of charge status LEDs

Colour	Status	Meaning
green	on continuously	Charge status 100 %
green	flashing	Battery charging.
red	flashing	Charging error

9.4 Performing a firmware update

9.4.1 Performing firmware updates of the maintenance station



CAUTION

The station power supply must not be disconnected during the installation process. The station may be damaged if this is not observed.



NOTICE

The station does not support any USB data storage device with an NTFS file system.

1. Download the firmware update from the internet:
 - a. Go to www.draeger.com.
 - b. Go to the X-dock product page and unzip the firmware update to the root directory of an empty USB data storage device.



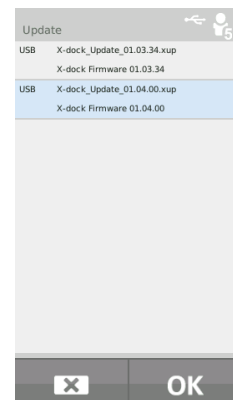
CAUTION

The USB data storage device must not contain older firmware files!

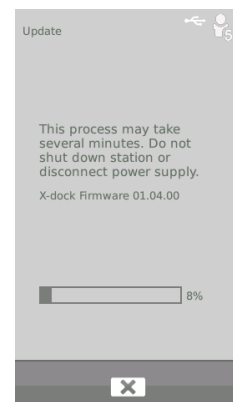
2. Connect USB data storage device with the firmware update to the USB port of the station.
The USB icon is displayed in the status bar.

3. Select > **System configuration > Update**. A list of all firmware updates available on the USB storage device will be displayed.

4. Select the desired firmware update from the list. The selected firmware update is marked blue.



5. Start the firmware update using **OK**. The installation progress will be displayed:



6. Following successful transfer to the station, the start is restarted automatically and the firmware update is installed immediately afterwards. During the installation process, the status LEDs on the modules will be blue.
7. After the installation is complete, the station changes to operating mode. The station is ready for operation.



NOTICE

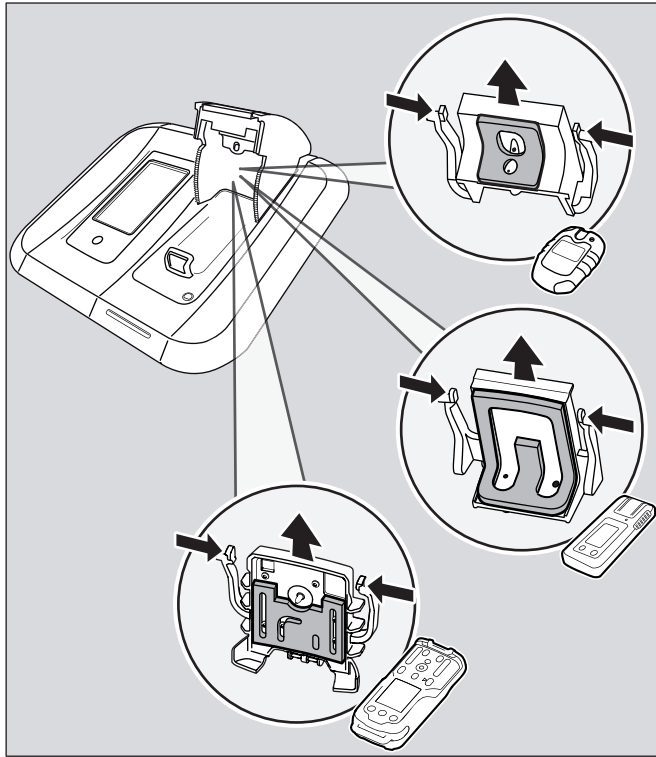
The master and all modules of a maintenance station must always be updated to the latest firmware version. It is not possible to install an older firmware version.

9.5 Changing the sealing insert

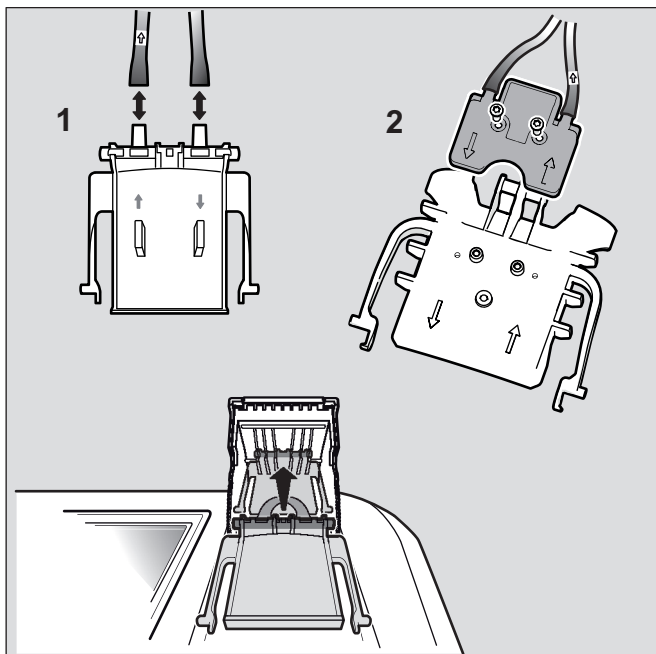


NOTICE

The sealing inserts must be changed at regular intervals (e. g. at each inspection) or sooner as required.



01633286.eps



01733286.eps

1. Open the module cover.
2. Squeeze the two external locking lugs in and withdraw the sealing insert downwards.
3. With the Pac/X-am 125 module: Remove the hoses from the sealing insert (1).
With the X-am 8000 module: Loosen the screws at the hose coupling and remove the hose coupling with the hoses. Check that the seals of the hose coupling are intact, replace the hose coupling (2) if required.
4. Replace the sealing insert.
5. With the Pac/X-am 125 module: Fit the hoses to the new sealing insert (note the arrows on the sealing insert and the hose).
With the X-am 8000 module: Fit the hose coupling with the hoses on the new sealing insert and tighten the two screws.
6. Squeeze the external locking lugs in and insert the sealing insert into the module cover. The locking lugs must click into place.
7. Check that the sealing insert is fitted correctly in the module cover.

9.6 Changing the fresh air filter



NOTICE

With regular use and depending on the conditions of use, the fresh air filter should be changed typically every 2 months.

1. Unscrew the old fresh air filter.
2. Screw in the new fresh air filter.

9.7 Calibrating the touchscreen

1. At system start hold the function key until the calibration screen is displayed.
2. Press each of the 5 position markers displayed in succession.

9.8 Cleaning



CAUTION

Abrasive cleaning implements (brushes, etc.), cleaning agents and cleaning solvents can destroy the fresh air filter.

The device does not need any special care.

- If very dirty, the equipment can be carefully wiped down with a damp cloth.
- Carefully dry the device using a cloth.

10 Disposal



This product must not be disposed of as municipal waste. This is indicated by the adjacent icon. You can return this product to Dräger free of charge. For information please contact the national marketing organisations and Dräger.

11 Technical data

Dimensions (H x W x D):

Master	approx. 3.54 x 5.70 x 9.84 inches (120 x 130 x 250 mm)
Pac / X-am 125 module	approx. 3.54 x 5.70 x 9.84 inches (90 x 145 x 250 mm)
X-am 8000 module	122 x 145 x 250 mm

Weight:

Master	approx. 4.02 pounds (48.23 ounces; 1500 g)
Pac / X-am 125 module	approx. 2.57 pounds (30.86 ounces; 960 g)
X-am 8000 module	approx. 1225 g
X-am 8000+ module	approx. 1445 g

Ambient conditions:

During operation	32 °F to +104 °F (0 °C to +40 °C)
During storage	4 °F to +122 °F (-20 °C to +50 °C) 700 to 1300 hPa max. 95% relative humidity
During charging (X-am 8000+ module only)	0 °C to +35 °C (outside of this temperature range charging is possible only to a limited extent)

Gas connections: 1x fresh air connection
1x compressed air inlet
1x exhaust outlet

X-dock 5300/6300	3x gas inlets
X-dock 6600	6x gas inlets

Inlet pressure:

for the measured gas	0.5 bar ±20 %
for compressed air	0.5 bar ±20 %

Power supply: 11 V - 28 V DC, 6.25 A

Connections: 3x USB 2.0 standard A connection,
(host, cable <3 m)
1x USB 2.0 mini-B connection,
(device, cable <3 m)
1x Ethernet port RJ45
Data rate 10/100 Mbit

Serial no. (year of manufacture): The year of manufacture is the 3rd Letter contained in the factory number shown on the name plate: H=2015, J=2016, K=2017, L=2018 M=2019, etc. Example: Serial number ARKH-0054, the 3rd letter is K, i.e. the year of manufacture is 2017.

CE mark: Electromagnetic compatibility (Directive 2004/108/EC)

12 Order list

Name and description	Order No.
Dräger X-dock 5300 X-am 125	83 21 880
Dräger X-dock 5300 Pac	83 21 881
Dräger X-dock 5300 X-am 8000	83 21 882
Dräger X-dock 6300 Master	83 21 900
Dräger X-dock 6600 Master	83 21 901
Dräger X-dock Module X-am 125	83 21 890
Dräger X-dock Module X-am 125+ (with charge function)	83 21 891
Dräger X-dock Module X-am 8000	83 21 893
Dräger X-dock Module X-am 8000+ (with charge function)	83 21 894
Dräger X-dock Module Pac	83 21 892
Single wall mount	83 21 922
Comfort wall mount	83 21 910
Cylinder holder (table-top version)	83 21 918
Cylinder holder for top-hat rail	83 21 928
Power pack 24 V / 1.33 A (up to 3 modules)	83 21 849
Power pack 24 V / 6.25 A (up to 10 modules)	83 21 850
X-dock car adapter	83 21 855
Pressure regulator valve 0.5 bar (nickel-plated)	83 24 250
Pressure regulator valve 0,5 bar, Flowstop	83 24 251
Pressure regulator valve 0.5 bar (stainless steel)	83 24 252
Hose clamp, 5 pce.	83 24 095
Pump filter set (includes filter and hose connector)	83 19 364
Fluorinated rubber hose	12 03 150
Sealing insert (X-am 125)	83 21 986
Sealing insert (Pac)	83 21 987
Sealing insert (X-am 8000)	83 26 543
Hose coupling (X-am 8000)	83 26 544
X-dock Master display protector film	83 21 804
Stickers for module numbering	83 21 839
Barcode label, exterior (22 x 8 mm, 500 labels)	AG02551
Barcode scanner	83 18 792
Dräger X-dock Manager Basic	83 21 860
Dräger X-dock Manager Professional	83 21 870
Dräger X-dock Manager Licence (1x, both versions)	83 21 857
Dräger X-dock Manager Licence (5x, both versions)	83 21 858

13 Glossary

Abbreviation	Description
ALARM	Alarm element test
BTQ	Quick bump test (test of alarm actuation)
BTX	Extended bump test (test of accuracy)
CAL	Calibration
DB	Database
DBMS	Database management system
DL	Data logger
FAV	Favourite
FW	Firmware
HORN	Horn
LED	Light-emitting diode
MST	Master
SPAN	Span calibration
T90	Response time test
TWA	Time-weighted average
UEG/LEL/LIE	Lower explosive limit
UNDEF	Unknown
UNK	Unknown info
VIB	Vibration
ZERO	Zero-point calibration

Dräger Safety AG & Co. KGaA

Revalstraße 1
23560 Lübeck, Germany
Tel +49 451 882 0
Fax +49 451 882 20 80
www.draeger.com

90 33 286 - TH 4634.600 en
© Dräger Safety AG & Co. KGaA
Edition 11 - November 2017 (Edition 01 - August 2012)
Subject to alteration



Product information