

Aerotest Alpha

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For Your Safety

12 **Strictly follow the Instructions for Use**

Any use of the breathing air tester requires full understanding and strict observation of these instructions.

13

The breathing air tester is only to be used for the purposes specified here.

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15 **Maintenance**

16 The breathing air tester must be inspected and serviced by experts at regular intervals and a record kept. Repair and general overhaul of the breathing air tester may only be carried out by trained service personnel. We recommend that a service contract be obtained with Dräger Service and that all repairs also be carried out by them. Only authentic Dräger spare parts may be used for maintenance. Observe chapter "Maintenance Intervals".

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19 **Liability for proper function or damage**

20 The liability for the proper function of the breathing air tester is irrevocably transferred to the owner or operator to the extent that the breathing air tester is serviced or repaired by personnel not employed or authorized by Dräger Service or if the breathing air tester is used in a manner not conforming to its intended use. Dräger cannot be held responsible for damage caused by non-compliance with the recommendations given above. The warranty and liability provisions of the terms of sale and delivery of Dräger are likewise not modified by the recommendations given above.

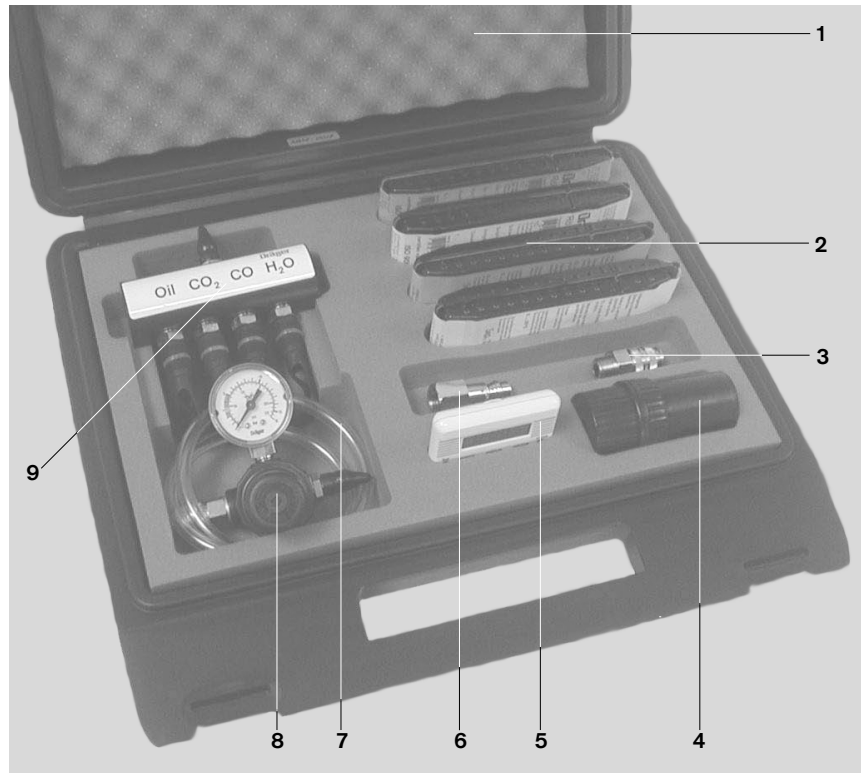
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Dräger Safety AG & Co. KGaA

What's What

- 1 Carrying case
- 2 Special Dräger tubes®
(4 sets of 10 units)
- 3 Lock coupling
- 4 Tube opener for breaking off tube ends
- 5 Timer
- 6 Plug fitting
- 7 Bubble test
- 8 O₂ pressure regulator with outlet pressure gauge
- 9 Measuring unit with four tube holders



Description / Intended Use

The Dräger Aerotest Alpha determines the quality of the breathing air delivered by a low pressure system (compressor, compressed air cylinder or compressed air network). The maximum supply pressure at the device inlets is 15 bar. Dräger tubes[®] are used for the measurements.

The levels of the following substances can be measured:

- Oil
- Carbon dioxide (CO₂)
- Carbon monoxide (CO) and
- Water vapour (H₂O).

These four values can be defined either simultaneously or individually.

The measurement precision remains constant regardless how many tube holders are loaded. By contrast, the assigned functions of the Dräger tubes[®] / tube holders must be taken into account. In other words, in order to check e.g. the oil content of the breathing air, the oil tube must be loaded in the appropriate holder marked "oil".

The permissible limit values are defined in EN 12 021 (Compressed air for breathing apparatus).

Measuring Unit: Pos. 9

The measuring unit needs a supply pressure of 3 bar.

Pressure Control Valve: Pos. 8

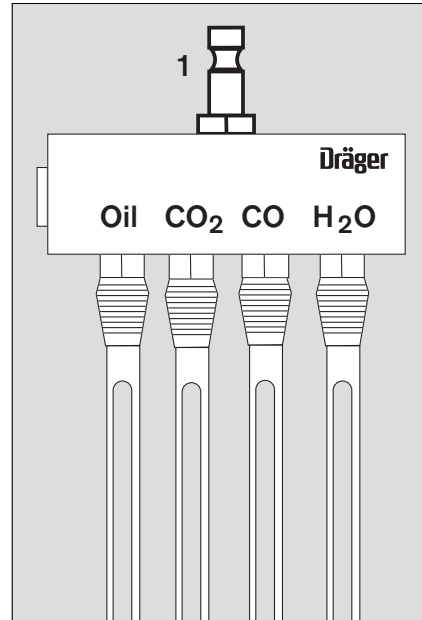
The pressure control valve is preset to 3 bar of relief pressure.

When the supply pressure changes from 3 to 15 bar, the relief pressure (3 bar) at the handwheel of the pressure control valve must be readjusted. Check via the pressure gauge.

All the components required for measurement are housed in a handy carrying case.

Preparation

- Clean the compressed air supply connection by blowing it clear.
 - Clean the measuring unit. It must be free of particles and dust.
 - Check pass-through of the measuring unit (see page 23).
- 1 Connect the measuring unit to the compressed air supply connection. The maximum supply pressure is 15 bar. If necessary, use the adapter.
- Outlet pressure 3 bar adjustable at the pressure-reducing valve with pressure gauge.
- Slowly open the compressed air supply valve and flush the system (allow compressed air to be exhausted through the system).
- Flushing time for a regularly maintained system:
2 to 3 minutes.
For other systems:
5 to 6 minutes.
- Then close the valve.
 - Set the timer: **5 minutes**.
Strictly follow the specific Instructions for Use.



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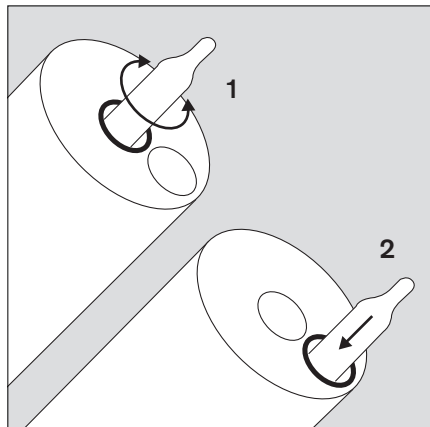
Use

- Cut off both ends of the “Oil 10/a-P“ tube, using the tube opener. Proceed as follows for both ends:
 - 1 Insert the tube as far as it will go into the middle hole and turn once or twice. The glass will be scratch-marked.
 - 2 Push the scratched end into the outer hole. The end breaks off and falls into the container.

Attention!

The broken tube ends have sharp edges.

Risk of injury.



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- 1 Insert the tube in the "Oil" tube holder of the measuring unit. The arrow on the tube indicates the direction of flow (i.e. arrow must point away from the measuring unit).
Use only Dräger tubes[®] – see "Order List" on page 25.
- 2 Break off both ends of the "Carbon dioxide 100/a-P" tube and insert it in the "CO₂" tube holder of the measuring unit.
- 3 Break off both ends of the "Carbon monoxide 5/a-P" tube and insert it in the "CO" tube holder of the measuring unit.

The "Water vapour 20/a-P" tube requires special handling:

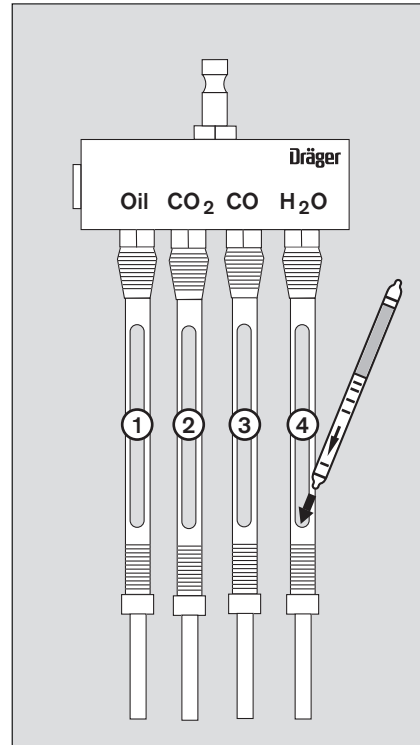
- Break off the outlet end of the tube.
- Scratch-mark the inlet end of the tube with the tube opener, without breaking it off.
- Slowly open the compressed air supply valve.
- 4 Insert the outlet end of the "Water vapour 20/a-P" tube in the "H₂O" tube holder of the measuring unit.
- Break off the inlet end in the air stream and simultaneously insert it in the tube holder.
- Start the timer.

NOTE

Do not inhale the gases released during measurement.

After the test time has elapsed:

- Close the compressed air supply valve. Remove the Dräger tubes from the tube holder and evaluate the relevant levels with the aid of the Instructions for Use of the Dräger tubes[®].
Start by reading off the "Water vapour 20 /a-P" tube.



After Use

- Dispose of all used tubes and of the broken tube ends in the tube opener in accordance with the Instructions for Use of the tubes.
- If necessary:
Clean the container of the tube opener and the tube holder with clean water (only the lower, outlet end) and dry.

Technical Data

Carrying case	
Dimensions (length x width x height)	350 x 300 x 85 mm
Colour	black
Weight (with full contents)	approx. 2 kg
Measuring unit	
Dimensions (length x width)	100 x 38 mm
Height including tube holder	230 mm
Connection for compressed air supply	Press-fit nipple, 9 mm
Supply pressure	
Minimum	3 bar
Maximum	15 bar
Volumetric flow	
Factory-set at	3.0 ^{+0.5} bar
For CO and CO ₂ tubes	0.2 litres per minute
For Oil and H ₂ O tubes	4 litres per minute
Adapter 1	
Inlet	Press-fit coupling, 9 mm
Outlet	External thread G 1/4
Adapter 2	
Inlet	Internal thread G 1/4
Outlet	Press-fit nipple, 12 mm
Environmental conditions	
	15 °C to 25 °C
	1013 mbar

Bubble Test

The bubble test is used for the control of the measuring unit, see "Maintenance Intervals" on page 24. It is tested whether volumetric flow rate is guaranteed within the measure or a pollution and/or blockage is available.

- 1 To this is the delivered bubble test hose plugged into the to be tested connection of the measuring unit.
- 2 The other end of the bubble test hose is dipped into a water filled receptacle.
- 3 With assistance of the timer, the ascending bubbles are counted:

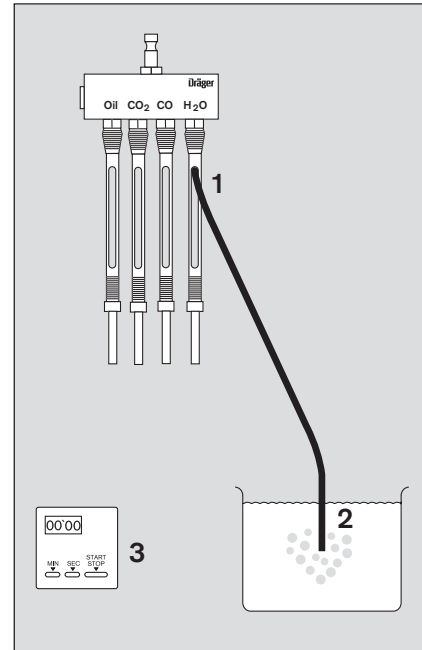
CO₂ and CO connection, countable blistering
(e.g. 40 blow in 15 sec.).

Oil and H₂O connection, large blistering (not countable).

Storage

Store all parts dry, free of deformation, in a cool and dust-free place. Protect against direct light and heat sources.

Strictly follow the "Guidelines for the storage, maintenance and cleaning of rubber products".



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Troubleshooting

Fault	Cause	Remedy
Leaky compressed air connection	Defective sealing ring	Check the sealing ring and replace if necessary
Tube not firmly seated in the tube holder	Tube holder worn	Replace the tube holder
Tube end not cleanly scratched and broken off	Tube opener blunt	Replace the tube opener
Major measurement fault	Tube inserted in wrong holder	Check
	Tube holder dirty or loose	Clean or replace the tube holder
	Wrong volumetric flow, because the feed system is blocked	Unscrew the tube holder from the measuring unit and blow the feed insert clear from both sides with compressed air
O ₂ pressure regulator	Relief pressure deviating from 3 bar	Readjust on 3 bar relief pressure

Maintenance Intervals

Device component	Maintenance work required	before each use	after each use	every six months	every year
Test tube holder	Clean		X		
Test tube	Check date of use	X		X	
Measuring device	Check volume flow				X ^{*)}

*) By Dräger Safety.

Order List

Designation and description	Order No.
Dräger Aerotest Alpha in carrying case, complete with Dräger tubes® (4 sets of 10 units)	65 27 150
Spare parts	
Tube opener	64 00 010
Tube holder	CH 7000
Plug fitting	65 25 913
Lock coupling	65 25 588
Timer	D 40 888
O ₂ pressure regulator	65 27 151
Bubble test hose	65 27 686
Consumables	
1 Set (of 10 units) Dräger tubes® for	
Oil 10 /a-P	67 28 371
Carbon dioxide 100/a-P	67 28 521
Carbon monoxide 5/a-P	67 28 511
Water vapour 20/a-P	81 03 061

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4th edition - January 2007

Subject to alteration