



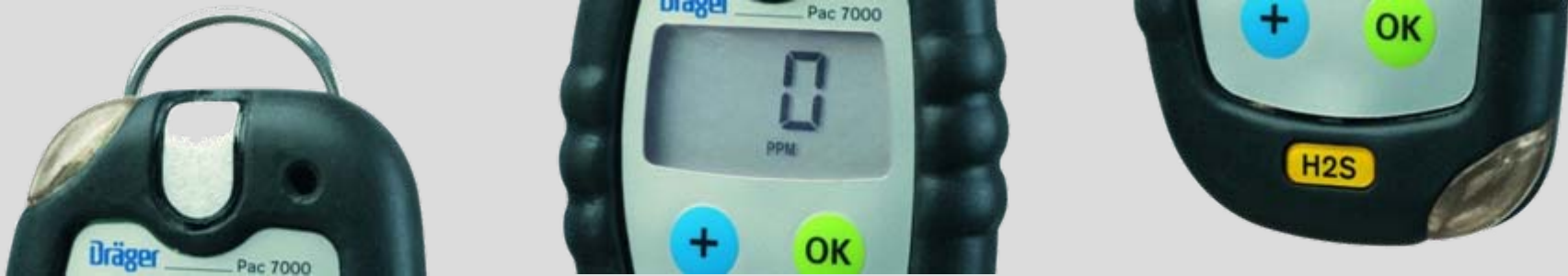
## Dräger Pac 7000

Dräger Pac instruments

Lübeck, 07/2009, Ulf Ostermann

## Dräger Pac 7000

### Personal Air Monitoring



Small and robust, ergonomic and intuitive, economic and powerful – the Dräger Pac 7000 is tailor-made for personal monitoring at the workplace. Featuring the latest sensor technology, this innovative single gas detector is equipped with a wide range of functions and is suitable for many different applications in day-to-day industrial settings.



Developed for typical industry applications especially for personal monitoring.

Ideal for:

Shut down

Steel industry

Petrochemical industry

Oil & gas industry

Mining



- with leather case +  
belt

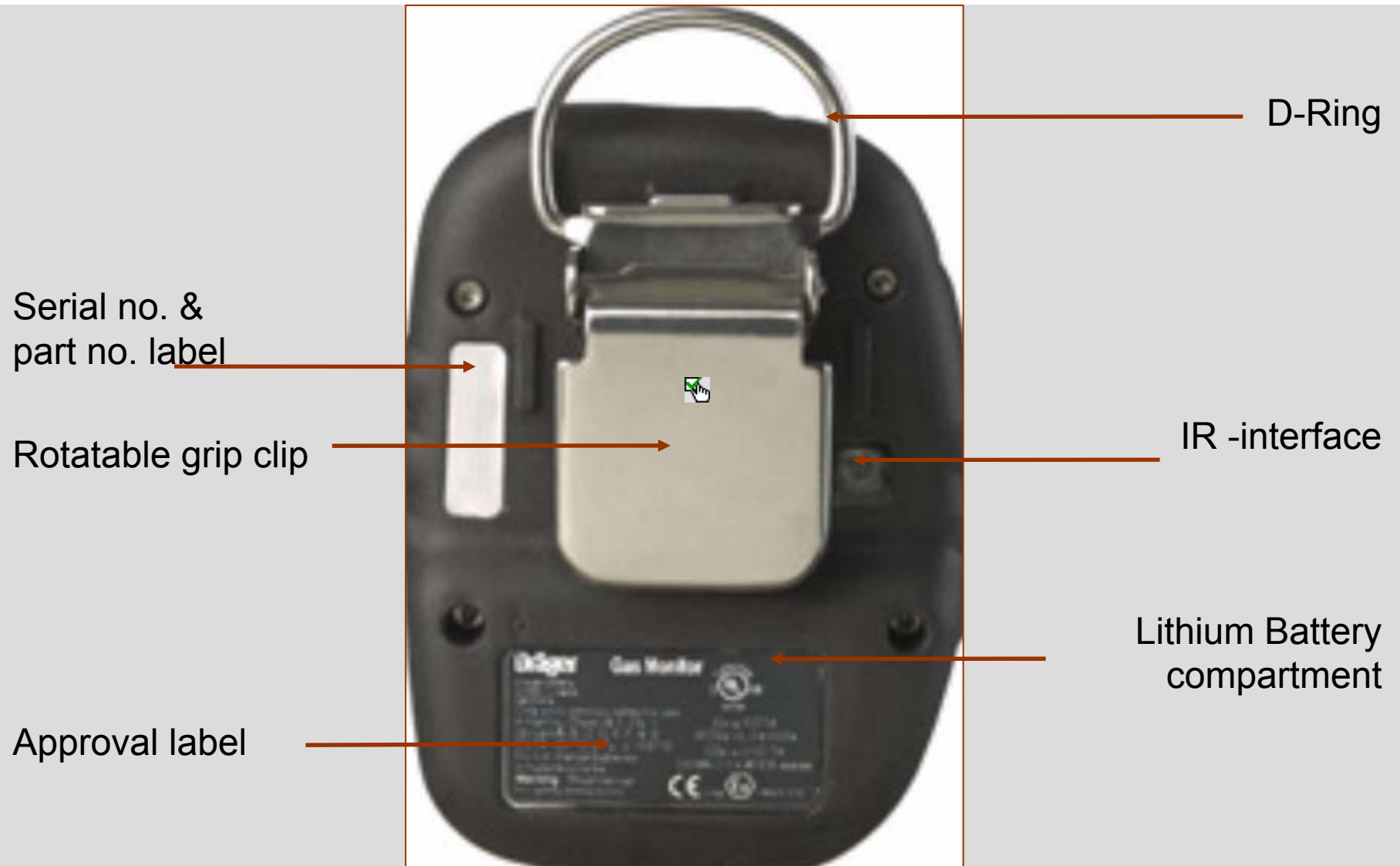


- with rotatable clip

What is what ?



Was ist was



## Rund um die Messgeräte Dräger Sensoren XXS



### **New DrägerSensor Technologie**

Utilizing long-life, state-of-the-art Dräger XXS Sensor technology, the innovative Dräger Pac 7000 boasts both speed and reliability in regards to the measurement results.

# Dräger Pac 7000

## electrochemical sensors



Dräger XXS Sensor	Measurement range	Resolution	Ansprechzeit	Expected lifetime/month	Warranty	Part no. sensor
O2 / E	0 - 25 Vol.-%	0,1 Vol.%	≤10 Sek (T90)	60	24/60	68 10 881 / 68 12 211
H2S / E	0 - 100 ppm	1 ppm	≤ 15 Sek (T90)	60	24/60	68 10 883 / 68 12 213
CO / E	<b>0 - 2000 ppm</b>	1 ppm	≤ 25 Sek (T90)	60	24/60	68 10 882 / 68 12 212
Cl2	0 - 20 ppm	0,05 ppm	≤ 30 Sek (T90)	36	12	68 10 890
CO2	0 - 5 Vol.-%	0,1 Vol.%	≤ 30 Sek (T50)	15	12	68 10 889
H2S LC	0 - 100 ppm	<b>0,1 ppm</b>	≤ 15 Sek (T90)	60	24	68 11 525
HCN	0 - 50 ppm	0,1 ppm	≤ 10 Sek (T90)	18	12	68 10 887
NH3	0 - 300 ppm	1 ppm	≤ 20 Sek (T50)	24	12	68 10 888
NO	0 - 200 ppm	0,1 ppm	≤ 20 Sek (T90)	36	12	68 11 545
NO2	0 - 50 ppm	0,1 ppm	≤ 15 Sek (T90)	36	12	68 10 884
<b>OV</b>	<b>0 - 200 ppm</b>	<b>0,5 ppm</b>	≤ 20 Sek (T50)	30	12	68 11 530
<b>OV-A</b>	<b>0 - 200 ppm</b>	<b>1 ppm</b>	≤ 40 Sek (T50)	30	12	68 11 535
PH3	0 - 20 ppm	0,01 ppm	≤ 10 Sek (T90)	36	12	68 10 886
SO2	0 - 100 ppm	0,1 ppm	≤ 15 Sek (T90)	36	12	68 10 885



# Dräger Pac 7000

rugged enclosure



- IP 65 protection class
- pressure resistant sensor for 700 up to 1300 mbar
- -30°C to 55°C
- rubber overmold chassis





Integrated vibrating alarm

Loud audible alarm

>90 dB (A) at a distance of 30 cm

Bright visual alarm with 2 high intensity LED's visible 180°

Alarms pointed towards user eyes and ears



## Dräger Pac 7000 Battery

- Exchangeable lithium battery
- Sensors kept warm during standby
  - Turn on=> ready to use



Battery life time:




<b>PAC 7000</b>	<b>PAC 7000 O2</b>
8 month	4 month

# Dräger Pac 7000

## Software Menu

### Dräger Pac 7000 Menu



indicate:

-  - TWA (time weighted average)
-  - STEL (short time exposure limit)
-  - Peak concentration

Menu:

- Bump test

password protected:

-  - Fresh air calibration (option: password free)
-  - span cal calibration

## Dräger Pac 7000 configurable options

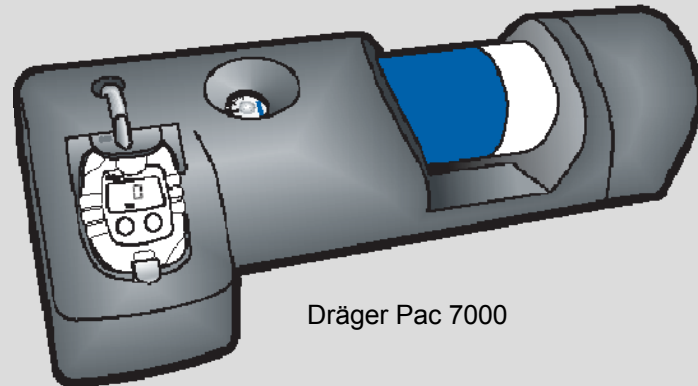
For calibration and individual configuration the instrument will be connected to a PC with installed CC Vision software.

- Measuring units (Vol.%, ppm, mg/m<sup>3</sup>)
- Alarm levels: “A1 & A2”
- TWA and STEL values
- Data logger interval
- Life signal
- Adjust Operating timer
- Adjust calibration – and bump test interval
- Option: instrument error after expired or ignored bump test or calibration interval
- Manual or automatic bump test
- Adjust Switch off not allowed

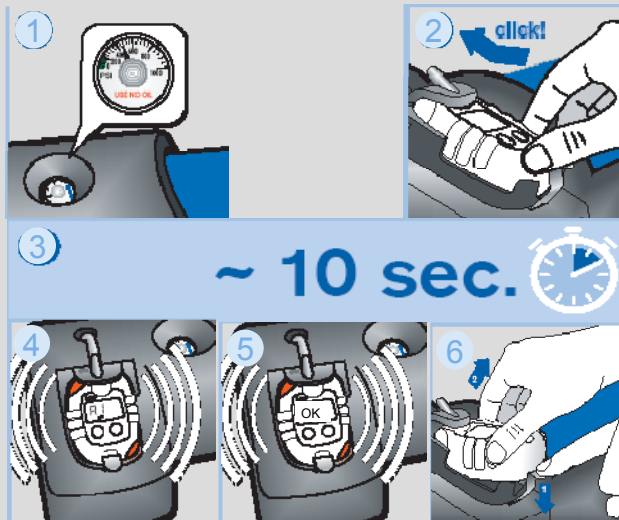


# Dräger Pac 7000

## automatic bump test



Dräger Pac 7000



The Dräger Bump Test Station works independently, without any external power supply, ideal for use in the field.

Insert the Dräger Pac 7000 in the Bump Test Station. The instrument identifies the Dräger Bump Test Station and starts the automatic bump test without pressing any buttons.

=> Option: automatic recalibration, if bump test failed (e.g. A1 not achieved).

## approvals

The units meet the intrinsic safety requirements for use in hazardous areas for ATEX, UL, CSA and GOST.

- UL Class I, II Div I, Group A, B, C, D, E, F, G, Temp Code T4  
 $-30^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$  ( $-22^{\circ}\text{F} \leq T_a \leq +131^{\circ}\text{F}$ )
- cUL Class I, II Div I, Group A, B, C, D, E, F, G, Temp Code T4  
 $-30^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$  ( $-22^{\circ}\text{F} \leq T_a \leq +131^{\circ}\text{F}$ )
- CE0158 (89/336/EEC, 94/9/EC)
- DEMKO 04 ATEX  
 I/II M 1/1 G EEx ia I/IIC T4,  
 $-30^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$  ( $-22^{\circ}\text{F} \leq T_a \leq +131^{\circ}\text{F}$ )
- IEC Ex
- MTC (ATEX) EN 50104 (O2), EN 45544 1+2 (CO+H2S), EN50271 (Software+System)
- MED approval 'Marine Equipment Directive' 96/98/EC
- GOCT P 51330.0-99 (MЭК 60079-0-98)  
     GOCT P 51330.1-99 (MЭК 60079-1-98)  
     GOCT P 51330.10-99 (MЭК 60079-11-99)



## Dräger Pac 7000 in case of...

... is the dust- and water filter, the battery, the clip and the sensor is easy exchangeable by the user.







Communication cradle complete with USB cable and Pac Vision software.

Lithium Battery

Dust- and water filter

Leather carrying case

Bump Test Station

E-Cal Module for Pac instruments

CC/Pac Vision

Gas Vision

# Dräger Pac 7000

## At a glance

### High performance Dräger XXS Sensors

- Optional 5-year guaranty for hydrogen sulfide, oxygen and carbon monoxide monitors
- Automatic function test with Dräger Bump Test Station
- Optional recalibration after a failed bump test
- Adjustable bump test interval
- Unlimited lifetime with simple battery, sensor and filter replacement
- Integrated data logger
- Gas access from top and front
- Adjustable TWA and STEL alarms
- peak value

Thank you for your attention!