

# Model Portable Gas Monitor GX-3R PCO

Bluetooth mounted!





Emergency notifications including gas alarms can be sent by email from a smartphone with the dedicated app installed.

#### 5-year warranty

The instrument and sensors have a 5-year warranty\*.

Allows long-term use with peace of mind.

\*Option

#### **Five-component detection**

Allows installation of carbon dioxide and other toxic gas sensors, in addition to sensors for combustible gases, oxygen, hydrogen sulfide, and carbon monoxide.

Intrinsically safe explosion-proof construction and flame-proof enclosure

**Dust-proof, waterproof construction (protection level equivalent to IP66/68)** 

Survives 7 m drop testing!



Scan to view promotion video.

Available on website!

RIKEN KEIKI Co., Ltd.

## Multifunction & high-performance! GX-3R Pro features

First Japanese Bluetooth compatible device

Allows connection with a smartphone via Bluetooth. Allows rapid notification of emergency situations using the dedicated app.

Five-component detection (four components + one)!

Detection target gases include carbon dioxide and other toxic gases in addition to combustible gases, oxygen, carbon monoxide, and hydrogen sulfide. Selectable to suit specific uses

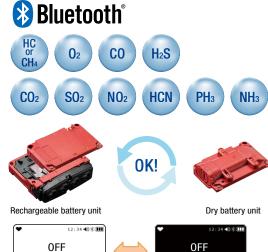
Battery type selectable

Runs on either an environmentally-friendly lithium ion battery or alkaline batteries for use anytime, anywhere.

Support for 11 languages Supports a total of 11 different languages for easy operation by users overseas. (Japanese/English/French/Spanish/Portuguese/German/Italian/Russian/Korean/Chinese [simplified/traditional])

Easy-to-read full-dot matrix display

Features a high-visibility full-dot matrix display. Capable of displaying Japanese kanji characters; allows black and white inversion of LCD screen display.



0FF LCD BACKGROUND





### Incorporates new R sensors with outstanding long-term stability.

The GX-3R incorporates the newly developed R sensor series. R sensors are high-performance sensors with dramatically improved sensor performance. The sensors are covered by a 3-year warranty\* for peace of mind (NH3 sensors only have a 1-year warranty). \* On condition that the product is maintained at least once a year.

Certified according to a range of performance standards and marine standards

(Tested by third-party organizations as conforming to MED and European performance and other standards, to ensure high levels of reliability)

- Marine related: MED certification (European Marine Equipment Directive), JG (Ministry of Land, Infrastructure, Transport and Tourism type approval)
- European performance standards: EN 60079-29-1 (combustible gases), EN 50104 (oxygen), EN 45544-1, EN 45544-2, EN 45544-3 (toxic gases)
- JIS compliance: JIS T 8201 (oxygen), JIS T 8205 (hydrogen sulfide)

Combustible gases	02	CO & H₂S	CO	CO <sub>2</sub>	CO/H <sub>2</sub> S/SO <sub>2</sub> /HCN/NO <sub>2</sub> /PH <sub>3</sub> /NH <sub>3</sub>
Tough construction with excellent poisoning and impact resistance!	Electrochemical type for greatly improved basic characteristics!	2-in-1 dual construction for smaller main unit!	2-sensor structure for reduced H <sub>2</sub> interference!	Ultra-compact and lightweight infrared type sensor!	Improved basic characteristics! Toxic gas sensors
	02	GO HESS	CO(-H <sub>2</sub> )	CO2 /IRCOM	CCO HAS SOS

## Even safer! Even easier to use! With even more handy functions

#### Combustible gas conversion function

Eliminates the need for complex calculations. Allows direct readout of concentrations of 27 different combustible gases. \* The setting is retained even after the power is turned off and on again.

#### Lunch break function

Retains TWA and peak values to allow cumulative measurement even if the power is turned off and

#### Alarm setpoint setting function

Settings can be altered via the controls on the GX-3R main unit. Supports control and management in accordance with the customer's own criteria.

#### Calibration notification function

Indicates the number of days until recommended regular maintenance when the power is turned on. Reminds the user to perform maintenance on the product to ensure safe use

#### Confirmation beep function

Indicates that the product is functioning normally. The buzzer sounds at preset intervals while measurement is underway.

## Combustible conversion gas list

0	0	Calibration g	as conversion
Conversion gas	Gas name displayed	CH <sub>4</sub>	i-C <sub>4</sub> H <sub>10</sub>
Methane	CH <sub>4</sub>	_	×
Isobutane	i-C <sub>4</sub> H <sub>10</sub>	0	_
Hydrogen	H <sub>2</sub>	0	0
Methanol	CH₃OH	0	0
Acetylene	C <sub>2</sub> H <sub>2</sub>	0	0
Ethylene	C <sub>2</sub> H <sub>4</sub>	0	0
Ethane	C <sub>2</sub> H <sub>6</sub>	0	×
Ethanol	C <sub>2</sub> H <sub>5</sub> OH	0	0
Propylene	C <sub>3</sub> H <sub>6</sub>	0	0
Acetone	C <sub>3</sub> H <sub>6</sub> O	0	0
Propane	C <sub>3</sub> H <sub>8</sub>	0	×
Butadiene	C <sub>4</sub> H <sub>6</sub>	0	0
Cyclopentane	C <sub>5</sub> H <sub>10</sub>	0	0
Benzene	C <sub>6</sub> H <sub>6</sub>	0	0

0	One many displaying	Calibration gas conversion			
Conversion gas	Gas name displayed	CH <sub>4</sub>	i-C <sub>4</sub> H <sub>10</sub>		
n-Hexane	n-C <sub>6</sub> H <sub>14</sub>	0	0		
Toluene	C7H8	0	0		
n-Heptane	n-C <sub>7</sub> H <sub>16</sub>	0	0		
Xylene	C <sub>8</sub> H <sub>10</sub>	0	0		
n-Nonane	n-C <sub>9</sub> H <sub>20</sub>	0	0		
Ethyl acetate	EtAc	0	0		
Isopropyl alcohol	IPA	0	0		
Methyl ethyl ketone	MEK	0	0		
Methyl methacrylate	MMA	0	0		
Dimethyl ether	DME	0	0		
Methyl isobutyl ketone	MIBK	0	0		
Tetrahydrofuran	THF	0	0		
n-Pentane	n-C <sub>5</sub> H <sub>12</sub>	0	0		

## Motion sensor equipped

#### Man down alarm

An alarm issued if the user is motionless for a preset length of time This notifies others in the vicinity of an emergency situation.

## Panic alarm

Lets the user trigger an alarm manually to alert others in the vicinity if an emergency occurs.





#### Screen display inversion

Automatically inverts the display by 180 degrees depending on the orientation of the product. This helps prevent mistakes in reading numerical values.







## **Optional accessories**



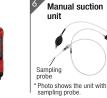
\* Not explosion-proof \* Above is a photo of the GX-3R

Arm/ankle belt



Belt clip







Data logger

management program





Heat-resistant case

Leather case

Case for short-term protection from heat sources
Uses a safety pin.

Case for protection against dirt
Uses the clip on the unit.

Part No. 4777 4577 90

3 Polt olin

Allows the product to be attached to a belt

Part No. 4777 4258 70

3 Belt clip

or pocket.

Part No. 4777 9202 40

4 Arm/ankle belt

Belt for securing the unit to your arm or ankle

Part No. 4777 9293 30

5 Protective film

Protects the display. (set of 5)

Part No. 4777 9296 50

6 Manual suction unit

External manual pump
Draws in at greater flow rates than electric

(with sampling probe) Part No. 4777 9297 20 (with 8 m float-type tube) Part No. 4777 9299 70 (with 30 m weighted tube) Part No. 4777 9300 30

7 Charging cradle

Cradle for recharging the unit

Part No. BC-3R 00

8 Five-way cable for charging

One AC adapter recharges up to five units.

\* Recharging times remain unchanged.

(with 22.5 cm cable)
Part No. 4777 9329 70
(with 60 cm cable)
Part No. 4777 9319 80
(with 120 cm cable)
Part No. 4777 9333 20

Calibration adapter

Adapter for supplying gas to GS-3R Pro during bump test and calibration (with outlet nipple and rubber seal)

Part No. 4777 9312 70

Data logger management program Software for viewing and managing

Part No. 9811 0870 60

## Supports suction operation with the pump unit.

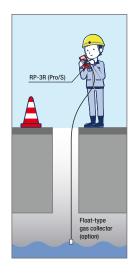
An external electric pump. Allows use for suction sampling.





Float-type gas collector

(option)





#### **Specifications**

Model	RP-3R (Pro/S)	
Suction flow rate	High mode: Low mode:	
Continuous operating time	High mode: Low mode:	Approx. 10 hours Approx. 16 hours
Operating temperature/ humidity range		C (no sudden fluctuations) H (no condensation)
Explosion- proof class	ATEX: IECEx:	e explosion-proof construction II1G Ex ia IIC T4 Ga Ex ia IIC T4 Ga Ex ia IIC T4 Ga
Construction	Dust-proof, s level equivale	plash-proof construction (protection ent to IP67)
External dimensions/ weight		$_{\rm im}$ (W) $\times$ 95 mm (H) $\times$ 29 mm (D) $_{\rm ojections}$ / Approx. 130 g
Power source	AA alkaline b	attery × 1
Optional accessories	Float-type ga	s collector (8 m)

<sup>\*</sup> Cannot be connected to the GX-2009 or GX-3R.

# Docking station to increase daily maintenance efficiency

Allows the user to perform a simplified pre-work check (bump test) and gas adjustment automatically.



#### Specifications

Specifications	
Model	SDM-3R
Power supply (AC adapter)	100 - 240 V AC ± 10 % 50/60 Hz
Suction flow rate	Approx. 0.25 L/min
Operating tempera- ture/humidity range	0 - 40 °C, up to 95 %RH (no condensation)
External dimen- sions/weight	Approx. 130 mm (W) $\times$ 110 mm (H) $\times$ 250 mm (D) / Approx. 800 g
Optional accessories	Connecting fixture, wall-mounting fixture, exhaust tube



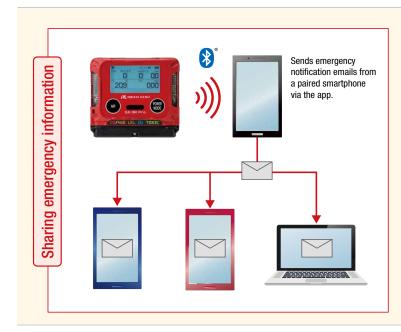
The GX-3R Pro can communicate with smartphones and tablets via Bluetooth. Allows alarms to be issued to remote locations in real time to notify emergency situations using the dedicated RK Link app. Also allows the main unit's settings to be altered.





Download the free RK Link app from Google Play or Apple Store.

## Features available using the GX-3R Pro ← RK Link



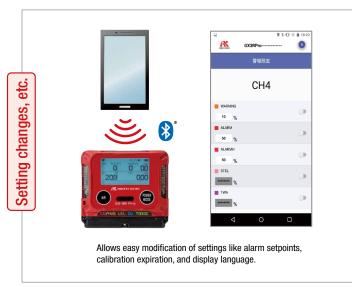




Emergency notification emails are sent promptly to pre-registered addresses in the event of an alarm.

- - Fault alarm
- Man down alarm · Panic alarm
- Reminder alert

## **Setting changes**







[Alarm setting]

[Calibration/bump setting]

[Language setting]

- · Allows modification of settings like alarm setpoints, calibration gas concentrations, and display language.
  Also allows detailed settings for types of alarms that trigger email notification.

For example: No email notification for first alarm; email notification from second alarm onward

<sup>\*</sup> Bluetooth can be used only in countries where certification under local radio law has been obtained. May be unavailable depending on radio transmission conditions.





## Gas concentration and battery level display



- · Displays gas concentrations in real time during
- measurement.

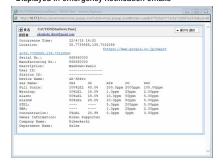
  Displays current battery levels in three steps.



## Owner information registration)



- Allows registration of details such as company and individual name.
  Displayed in emergency notification emails



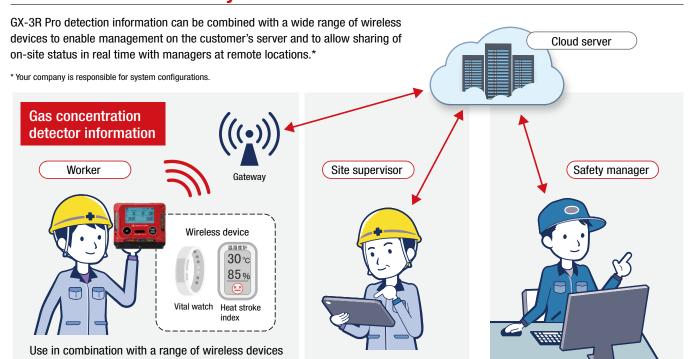
Email text (sample)

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## Other features enabled by Bluetooth



#### Awareness of individual status, environment, and location improves safety management.

Checking on-site status remotely

**Emergency alert** notification

Spotting signs of imminent disaster Accurate precautionary warnings

Rapid response in emergencies

Operation in conjunction with your company's safety management offers

unlimited possibilities!

\* Your company is responsible for system configurations.

#### **GX-3R Pro communication specifications**

Communication system: Bluetooth 4.2 (Bluetooth Low Energy)

Profile:

GAP (Peripheral) / GATT

Output/maximum communication distance: Class 2 / Approx. 10 m (varies depending on surrounding environment)

Acquiring gas concentration/status information; viewing/ changing settings

## ممروالممريية المميامم ببالمرمييية

Do the product communication specifications need to be altered for

What are the costs of connecting with a system?

Pairing	
How long is the pairing standby time?	5 minutes. After 5 minutes, Bluetooth needs to be turned on again to resume standby.
What happens when a device is paired?	🕉 changes from blinking to steady illumination.
What happens when device pairing is lost?	🕉 blinks and the product goes to standby. No audible alarm is issued.
Are unpaired connections possible?	No.
Communication	
What's the communication system (data access method)?	Read and Write.
What's the GATT profile?	Original.
What's the communication interval?	At least 1 second.
Main unit	
What's the continuous operating time when using BLE?	Normal mode: 25 hours. Long-life battery mode: 40 hours * Continuous operating time does not change when using BLE.
Is the product GPS-equipped?	No. Acquire location information from a smartphone or beacon.

No. Perform steps to ensure compatibility on the system side.

No costs are incurred. However, additional fees may apply if such connection requires changes in product specifications. (Starting from several millions of yen)

connecting with a system?

## **Specifications**

Model Sampling method Diffusion type (Changeable to sampling type by attaching RP-3R (Pro/S)) Lamp flashing, continuous modulating buzzer sounding, gas concentration display blinking, vibration Gas alarm indication Reset operation: Self-latching

System abnormality, sensor abnormality, battery voltage drop, calibration failure Fault alarms

Fault alarm indication Lamp flashing, intermittent buzzer sounding, detail display Reset operation: Self-latching Panic alarm Two levels: Prealarm and main alarm (after 5-second prealarm) Reset operation: Self-latching Man down alarm Three levels: Prealarm 1 (60 seconds), prealarm 2 (75 seconds), and main alarm (90 seconds) Reset operation: Self-latching

LCD digital (full-dot matrix), with backlight

Display Display items

Operation status, clock, battery level, temperature, peak reading, calibration notification Approx. 95 dB (30 cm) Buzzer sound pressure

Languages

Japanese/English/French/Spanish/Portuguese/German/Italian/Russian/Korean/Chinese (simplified/traditional) Bluetooth Bluetooth 4.2 (Bluetooth Low Energy)

Data logger function Maximum number of items: 3,600 Interval: 5 minutes (adjustable) Communication system: IrDA

Power source Lithium ion rechargeable battery unit (charging time approx. 3 hours) or dry battery unit (AAA alkaline battery  $\times$  2)

Long-life battery mode on: Approx. 40 hours (25 °C, fully charged, no alarm, no lighting) Long-life battery mode off: Approx. 25 hours (25 °C, fully charged, no alarm, no lighting) Continuous operating time\*1

Operating temperature/ -40 - +60 °C (no sudden fluctuations), 0 - 90 %RH (no condensation) humidity range\*

ATEX, IECEx, Japan Ex, INMETRO, China Ex, JG, MED, JIS T 8201, JIS T 8205, EN 50104, EN 45544-1, EN 45544-2, Certifications\*3

EN 45544-3. EN 60079-29-1

Explosion-proof class\*3 ATEX: II1G Ex da ia IIC T4 Ga / IM1 Ex da ia I Ma (With combustible gas sensor)

II1G Ex ia IIC T4 Ga / IM1 Ex ia I Ma (No combustible gas sensor) IECEx: Ex da ia IIC T4 Ga / Ex da ia I Ma (With combustible gas sensor) Ex ia IIC T4 Ga / Ex ia I Ma (No combustible gas sensor)

Japan Ex: Ex ia IIC T4 Ga

Protection level Equivalent to IP66/68 (2 m, 1 h)

With rechargeable battery unit: Approx. 73 mm (W)  $\times$  65 mm (H)  $\times$  26 mm (D) (excluding protrusions) / Approx. 120 g With dry battery unit: Approx. 73 mm (W)  $\times$  65 mm (H)  $\times$  34 mm (D) (excluding protrusions) / Approx. 140 g External dimensions/ weight

1 Varies depending on sensor type installed. Please contact RIKEN KEIKI for more information.

## **Detection target gases**

Detection target gas	Combustil (HC or		Oxygen		Carbon m	onoxide	Hydrogen sulfide		Sulfur o		
Detection principle	New ceran	nic type			Electrochemical type						
Display range	0 - 100	%LEL	0 - 40.0	) vol%	0 - 2,000	) ppm	0 - 200.0	0 - 200.0 ppm		0 - 100.00 ppm	
Detection range	0 - 100	%LEL	0 - 25.0	0 - 25.0 vol%		ppm	0 - 30.0	0 - 30.0 ppm		0 ppm	
1 digit	1 %L	EL	0.1 %		1 ppm		0.1 ppm		0.05 ppm		
	First alarm:	10 %LEL	L alarm:	19.5 vol%	First alarm:	25 ppm	First alarm:	5.0 ppm	First alarm:	2.00 ppm	
	Second alarm:	25 %LEL	LL alarm:	18.0 vol%	Second alarm:	50 ppm	Second alarm:	30.0 ppm	Second alarm:	5.00 ppm	
Gas alarm setpoint	Third alarm:	50 %LEL	H alarm:	23.5 vol%	Third alarm:	1,200 ppm	Third alarm:	100.0 ppm	Third alarm:	100.00 ppm	
(can be set by user)	OVER alarm:	100 %LEL	OVER alarm:	40.0 vol%	TWA alarm:	25 ppm	TWA alarm:	1.0 ppm	TWA alarm:	2.00 ppm	
					STEL alarm:	200 ppm	STEL alarm:	5.0 ppm	STEL alarm:	5.00 ppm	
					OVER alarm:	2,000 ppm	OVER alarm:	200.0 ppm	OVER alarm:	100.00 ppm	

Detection target gas	Nitrogen (NO		Hydrogen ( (HCN		Phosph (PH <sub>3</sub>		Ammo (NH:				dioxide O <sub>2</sub> )	
Detection principle				Electroche	mical type				Infrared type			
Display range	0 - 20.00 ppm 0 - 30.0 ppm			0 - 20.00 ppm 0 - 400.0 ppm			0 - 10.00 vol		0 - 10,0	00 ppm		
Detection range	0 - 20.0	0 ppm	0 - 30.0	ppm*	0 - 20.00	) ppm	0 - 300.0	) ppm	0 - 5.00 vol%		0 - 5.00 vol% 0 - 10,000 ppm	
1 digit	0.05 բ	pm	0.1 pp	m	0.01 p	pm	0.5 ppm		0.01 vol%		20 ppm	
	First alarm:	2.00 ppm	First alarm:	10.0 ppm	First alarm:	0.30 ppm	First alarm:	25.0 ppm	First alarm:	0.50 vol%	First alarm:	5,000 ppm
	Second alarm:	4.00 ppm	Second alarm:	20.0 ppm	Second alarm:	0.60 ppm	Second alarm:	35.0 ppm	Second alarm	: 3.00 vol%	Second alarn	n: 5,000 ppm
Gas alarm setpoint	Third alarm:	20.00 ppm	Third alarm:	30.0 ppm	Third alarm:	0.60 ppm	Third alarm:	35.0 ppm	Third alarm:	3.00 vol%	Third alarm:	5,000 ppm
(can be set by user)	TWA alarm:	0.50 ppm	TWA alarm:	0.9 ppm	TWA alarm:	0.30 ppm	TWA alarm:	25.0 ppm	TWA alarm:	0.50 vol%	TWA alarm:	5,000 ppm
	STEL alarm:	1.00 ppm	STEL alarm:	4.5 ppm	STEL alarm:	1.00 ppm	STEL alarm:	35.0 ppm	STEL alarm:	3.00 vol%	OVER alarm:	10,000 ppm
	OVER alarm:	20.00 ppm	OVER alarm:	30.0 ppm	OVER alarm:	20.00 ppm	OVER alarm:	400.0 ppm	OVER alarm:	10.00 vol%		

<sup>\*</sup> Hydrogen cyanide concentrations are displayed as 0.0 ppm for concentrations between 0.0 and 0.2 ppm.

#### Standard accessories

#### Protective cover

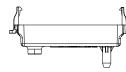


Appearance when attached



Protective cover (Part No. 4777 4175 00)





Calibration adapter (simple type) (Part No. 4777 9370 70)



EU plug (Part No. 2594 0933 60)

<sup>\*2</sup> In temporary ambient conditions for approximately 15 minutes. The operating temperature and humidity ranges for continuous ambient condi-tions are as follows: Temperature: -20 - +50 °C (no sudden fluctuations) / Humidity: 10 - 90 %RH (no condensation)
\*3 Applicable standards and certifications vary depending on the specifications of the gas detector. Please specify at the time of purchase.

#### Contact us for a quick quotation! (Please make a copy of this sheet.) Select one combustible gas sensor. Code Selection Model Display range Combustible gas (HC) sensor NCR-6309 0 - 100 %LEL Code input box М Combustible gas (CH<sub>4</sub>) sensor NCR-6309 0 - 100 %LEL No sensor Select whether oxygen sensor is required. Code Selection Model Display range Code input box Oxygen (02) sensor FSR-X13P 0 - 40.0 vol% No sensor Select one sensor (detection gas type) to be installed. Code Selection Model Display range 0 - 2,000 ppm F1 Carbon monoxide/hydrogen sulfide (CO/H<sub>2</sub>S) sensor FSR-A1DP 0 - 200.0 ppm Carbon monoxide (CO) sensor \* H<sub>2</sub> interference reduction ESR-A1CP E2 0 - 2.000 ppm Code input boxes **E3** Sulfur dioxide (SO<sub>2</sub>) sensor ESR-A13D 0 - 100.00 ppm (3)(4) **E4** Hydrogen sulfide (H<sub>2</sub>S) sensor ESR-A13i 0 - 200.0 ppm **E**5 Carbon monoxide (CO) sensor ESR-A13P 0 - 2,000 ppm **E7** Hydrogen cyanide (HCN) sensor ESR-A13D 0 - 30.0 ppm 00 No sensor Select one sensor (detection gas type) to be installed. Selection Model Display range Sulfur dioxide (SO<sub>2</sub>) sensor ESR-A13D 0 - 100.00 ppm **E4** Hydrogen sulfide (H<sub>2</sub>S) sensor ESR-A13i 0 - 200.0 ppm Nitrogen dioxide (NO<sub>2</sub>) sensor F6 FSR-A13D 0 - 20.00 ppm **E7** Hydrogen cyanide (HCN) sensor ESR-A13D 0 - 30.0 ppm Code input boxes Phosphine (PH<sub>3</sub>) sensor ESR-A13D2 **E8** 0 - 20.00 ppm (5)(6) **E**9 Ammonia (NH<sub>3</sub>) ESR-B134 0 - 400.0 ppm Carbon dioxide (CO2) <vol%> sensor D1 IRR-0409 0 - 10.00 vol% D2 Carbon dioxide (CO<sub>2</sub>) <ppm> sensor IRR-0433 0 - 10,000 ppm 00 Note Two identical sensors cannot be selected. Select the battery type. Bluetooth support\* Code Selection Model Code Selection Model Rechargeable lithium ion BUL-3R Bluetooth supported Code input box battery Code input box 7 8 D Alkaline batteries BUD-3R 0 Bluetooth not supported Bluetooth compatibility is standard on Japan models. Quantity required: 1 Write the selected codes in the В corresponding boxes on the right. \* Please submit a copy of this sheet for each set of 8 4 (5) (7) specifications if the specifications differ betweenits Select optional accessories.

Name	Quantity	
Heat-resistant case		Manua
Leather case		Manua
Belt clip		Charg
Arm/ankle belt		Five-w
Protective film		Five-w
Manual suction unit (with sampling probe)		Five-w

Name	Quantity
Manual suction unit (with 8 m float-type tube)	
Manual suction unit (with 30 m weighted tube)	
Charging cradle	
Five-way charging cable (22.5 cm length)	[
Five-way charging cable (60 cm length)	
Five-way charging cable (120 cm length)	

Name	Quantity
Calibration adapter	
Data logger management program	
Pump unit RP-3R (Pro/S)	
Docking station SDM-3R	

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